DVD Receiver

MX3900D/37 & MX3910D/17/78
MX3950D/37 & MX3960D/17

Service
Service
Service

Service Manual

MP3-CD PLAYBACK

COMPACT DISC DIGITAL AUDIO

DVD VIDEO

COMPACT DISC DIGITAL VIDEO

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CLASS 1
LASER PRODUCT

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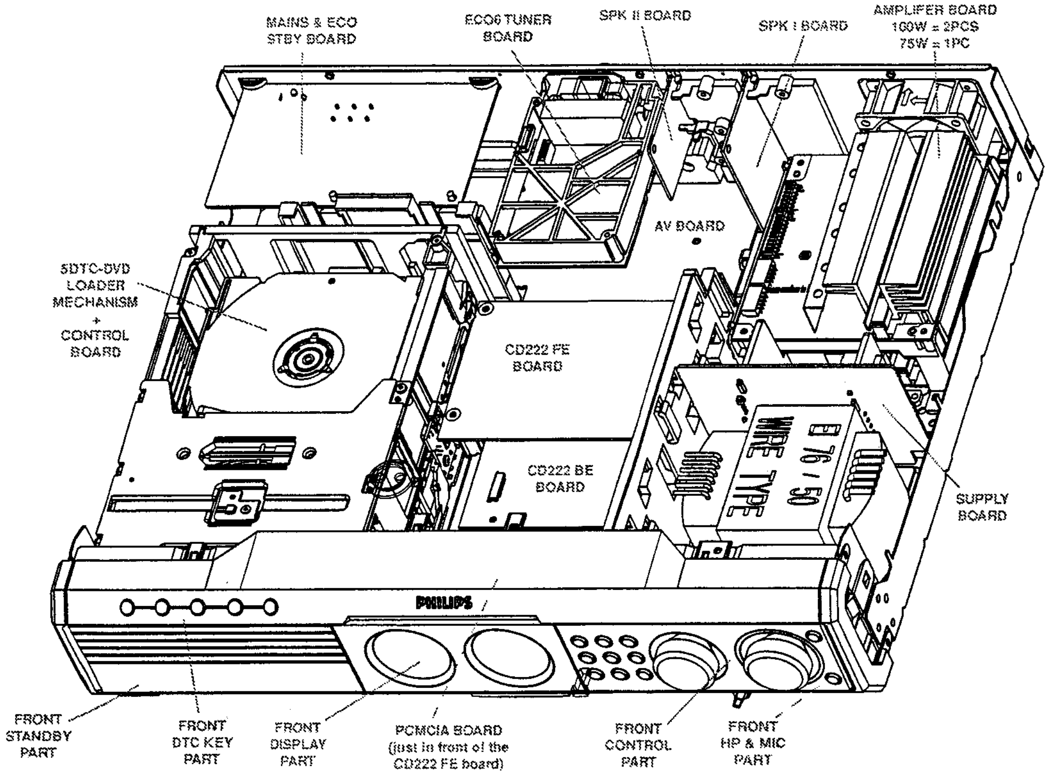
GB   3139 785 30202

PHILIPS

.OCATION OF PC BOARDS


MAINS & ECO STBY BOARD
ECO6 TUNER BOARD
SPK II BOARD
SPK I BOARD
AMPLIFER BOARD 100W = 2PCS 75W = 1PC
5DTC-DVD LOADER MECHANISM + CONTROL BOARD
AV BOARD
CD222 FE BOARD
CD222 BE BOARD
SUPPLY BOARD
B 76 / 50 WIRE TYPE
PHILIPS
FRONT STANDBY PART
FRONT DTC KEY PART
FRONT DISPLAY PART
PCMCIA BOARD (just in front of the CD222 FE board)
FRONT CONTROL PART
FRONT HP & MIC PART

VERSION VARIATIONS:

Type /Versions:	MX3900D		MX3910D		MX3950D		MX3960D	
Features & Board in used:	/37		/37	/78	/37		/17	
Karaoke	-		-	-	-		-	
News	-		-	-	-		-	
RDS	-		-	-	-		-	
Pro-Scan	x		x	x	x		x	
PCMCIA	-		-	-	-		-	
Standby - Clock Display	x		x	x	x		x	
ECO Standby - No Display	x		x	x	x		x	
Voltage Selector	-		-	x	-		-	
Digital In / Out	x		x	x	x		x	
Aux Input	x		x	x	x		x	
TV Input	x		x	x	x		x	
Line Output	x		x	x	x		x	
SCART output	-		-	-	-		-	
Pr, Pb & Y Outputs	x		x	x	x		x	
CVBS Output	x		x	x	x		x	
S-Video Output	x		x	x	x		x	
Headphone Socket	x		x	x	x		x	
Tuner board - ECO6 System non-Cenelec	x		x	x	x		x	
Tuner board - ECO6 System Cenelec	-		-	-	-		-	
Amplifier board - 1pc (75W 6-Channel)	x		x	x	x		x	
Amplifier board - 1pc (75W 7-Channel)	-		-	-	-		-	
Amplifier board - 2pc (100W 6-Channel)	-		-	-	-		-	

SPECIFICATIONS

GENERAL:

Mains voltage : 120V for /17/37
110-127V/220-240V switchable for /78
Mains frequency : 50/60Hz
Power consumption : < 0,5W at ECO Standby
< 20W Standby (clock display)
Clock accuracy : < 4 seconds per day
Dimension centre unit : 435 x 100 x 360mm

TUNER:

FM

Tuning range : 87.5-108MHz
Grid : 50kHz
IF frequency : 10.7MHz ± 25kHz
Aerial input : 75Ω coaxial
Sensitivity at 26dB S/N : < 7µV
Selectivity at 600kHz bandwidth : > 25dB
Image rejection : > 25dB
Distortion at RF=1mV, dev. 75kHz : < 3%
-3dB Limiting point : < 8µV
Crosstalk at RF=1mV, dev. 40kHz : > 18dB

MW

Tuning range : 530-1700kHz
Grid : 10kHz
IF frequency : 450kHz ± 1kHz
Aerial input : Frame aerial
Sensitivity at 26dB S/N : < 4.0mV/M
Selectivity at 18kHz bandwidth : > 18dB
IF rejection : > 45dB
Image rejection : > 28dB
Distortion at RF=50mV, m=80% : < 5%

AMPLIFIER:

Output power 1) at 4Ω, 1 kHz, 10% THD
L/R : 2 x 75W RMS
2 x 60W FTC
Center : 72W
Surround L/R : 72W RMS/channel
Sub-woofer : 72W
Frequency response ±3dB : 20Hz-20kHz
Hum (minimum volume) : 200nW
Residue noise (min, volume) : 40nW
Digital Sound Control : Stereo, 3D Sound, Multi modes 2)
Bass & Treble : -3dB to +3dB
Input sensitivity
TV-in : 350mV ± 3dB
Aux-in : 880mV ± 2dB
Output sensitivity
Line out : 600mV ± 2dB at 47kΩ
Subwoofer out 3) : 1.85V ± 2dB at 47kΩ
Headphone (vol. max.) : 660mV ± 2dB at 32Ω
Center out (vol. max.) : 500mV ± 2dB at 47kΩ

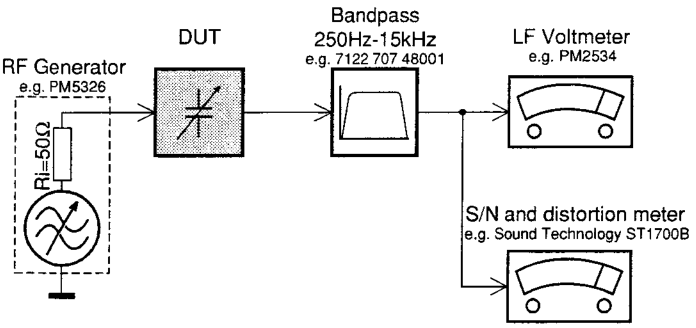
COMPACT DISC/VCD/DVD:

Video Decoding : MPEG-2
Video DAC : 10 Bits
Signal System : PAL / NTSC
Video Format : 4:3 / 16:9
MP3-CD bit rate 4) : 32-256 kbs,variable bitrates
MP3-CD sampling frequencies 4) : 32kHz, 44.1kHz, 48kHz
CBVS out 5)
CVBS level : 1.0 ± 0.1V_{p-p}
Luminance S/N ratio : > 45dB (unweighted)
YUV out 5)
Amplitude : 714mV ± 7mV
S/N ratio : > 50dB (unweighted)
S-Video out 5)
Y level : 1.0 ± 0.1V_{p-p}
Y S/N ratio : > 48dB (unweighted)
C level (burst) : 286mV_{p-p} +1/-4 dB
Digital Out : Coaxial acc IEC61937 / IEC60958
Digital In : Coaxial acc IEC60958

1) with only channel(s) under meausrement loaded, all other channels are unloaded.
2) Frequency response in each setting is software controlled.
3) measured with 55Hz at vol. maximum.
4) Recording format: ISO9660, UDF format is not supported.
5) Output terminals terminated with 75Ω

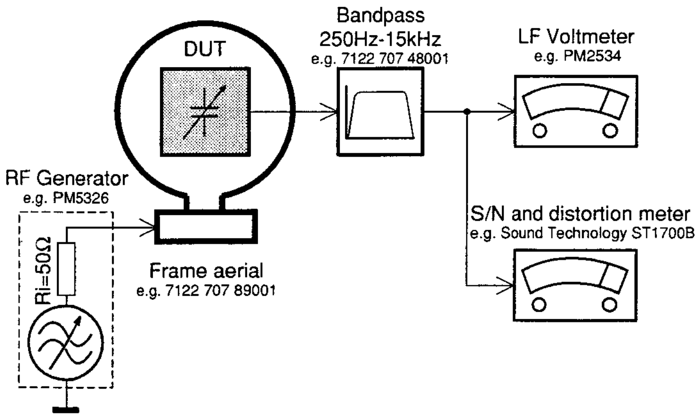
MEASUREMENT SETUP

Tuner FM


DUT
Bandpass
250Hz-15kHz
e.g. 7122 707 48001
LF Voltmeter
e.g. PM2534
RF Generator
e.g. PM5326
Ri=50Ω
S/N and distortion meter
e.g. Sound Technology ST1700B

Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilottone (19kHz, 38kHz).

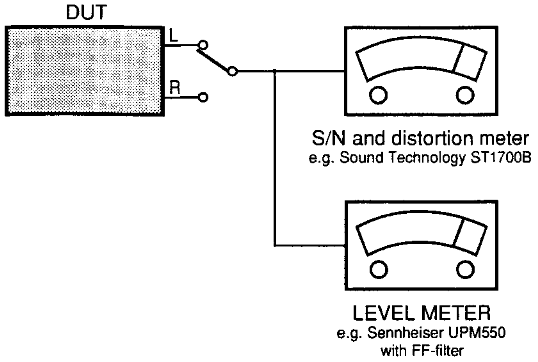
Tuner AM (MW,LW)


DUT
Bandpass
250Hz-15kHz
e.g. 7122 707 48001
LF Voltmeter
e.g. PM2534
RF Generator
e.g. PM5326
Ri=50Ω
Frame aerial
e.g. 7122 707 89001
S/N and distortion meter
e.g. Sound Technology ST1700B

To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday´s cage.
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

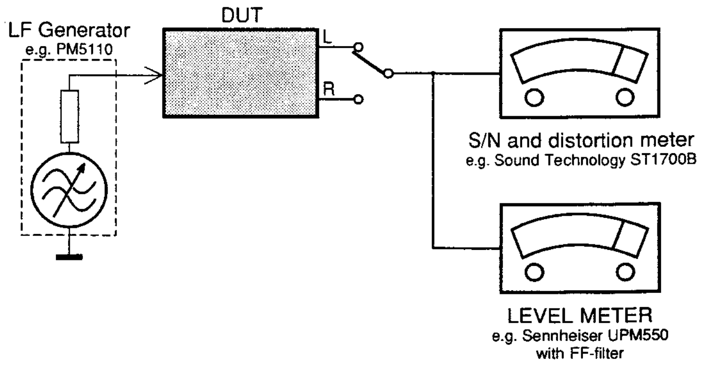
CD

Use Audio Signal Disc SBC429 4822 397 30184
(replaces test disc 3)


DUT
L
R
S/N and distortion meter
e.g. Sound Technology ST1700B
LEVEL METER
e.g. Sennheiser UPM550
with FF-filter

Recorder

Use Universal Test Cassette **CrO2** SBC419 4822 397 30069
or Universal Test Cassette **Fe** SBC420 4822 397 30071


LF Generator
e.g. PM5110
DUT
L
R
S/N and distortion meter
e.g. Sound Technology ST1700B
LEVEL METER
e.g. Sennheiser UPM550
with FF-filter

SERVICE AIDS

Service Tools:

Universal Torx driver holder	4822 395 91019
Torx bit T10 150mm	4822 395 50456
Torx driver set T6 - T20	4822 395 50145
Torx driver T10 extended	4822 395 50423
Allen key set (1.5, 2, 2.5, 3, 4, 5, 6, 8mm)	5322 395 10754

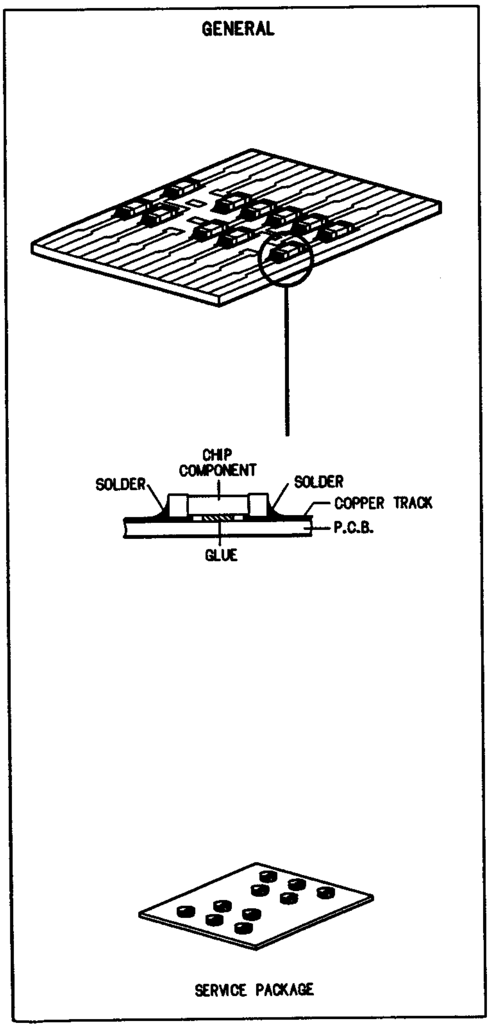
Compact Disc:

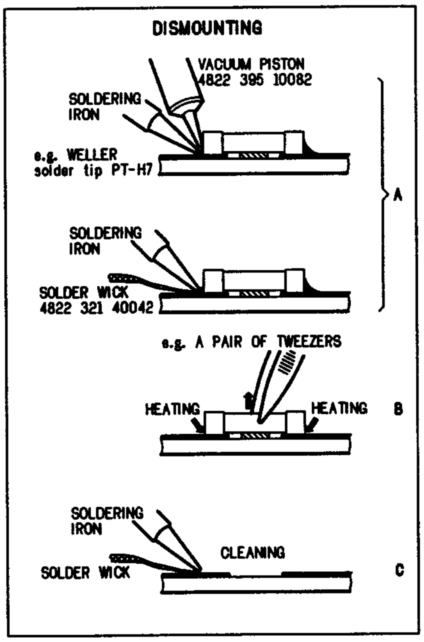
SBC426/426A Test disc 5 + 5A	4822 397 30096
SBC442 Audio Burn-in Test disc 1kHz	4822 397 30155
SBC429 Audio Signals disc	4822 397 30184
SBC444/444A	4822 397 30245
CD-RW Printed Audio Test Disc	7104 099 96611
Dolby Pro-logic Test Disc	4822 395 10216

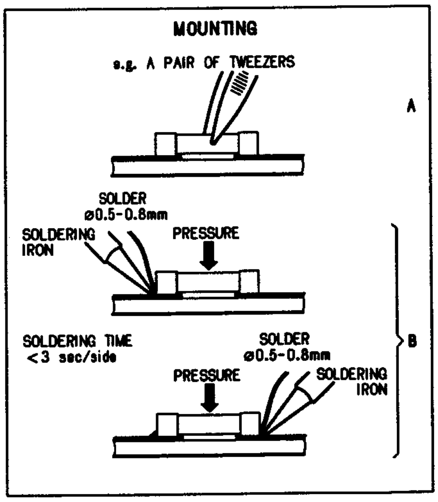
ESD Equipment:

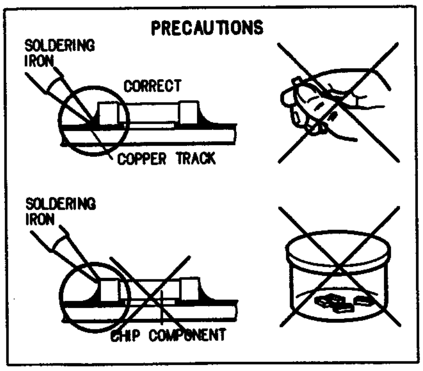
Anti-static table mat - large 1200x650x1.25mm	4822 466 10953
Anti-static table mat - small 600x650x1.25mm	4822 466 10958
Anti-static wristband	4822 395 10223
Connector box (1MΩ)	4822 320 11307
Extension cable (to connect wristband to conn. box)	4822 320 11305
Connecting cable (to connect table mat to conn. box)	4822 320 11306
Earth cable (to connect product to mat or box)	4822 320 11308
Complete kit ESD3 (combining all above products)	4822 320 10671
Wristband tester	4822 344 13999

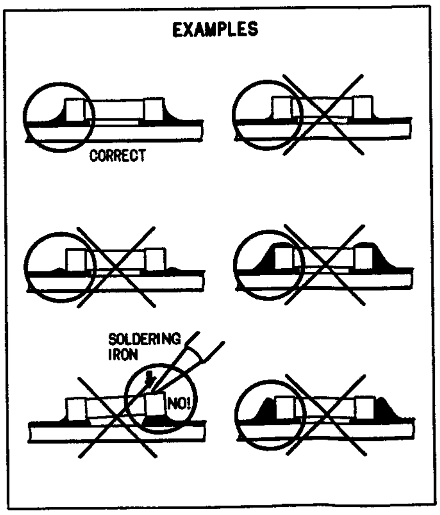
HANDLING CHIP COMPONENTS


GENERAL
CHIP COMPONENT
SOLDER
SOLDER
COPPER TRACK
P.C.B.
GLUE
SERVICE PACKAGE


DISMOUNTING
VACUUM PISTON
4822 395 10082
SOLDERING IRON
e.g. WELLER solder tip PT-H7
A
SOLDERING IRON
SOLDER WICK
4822 321 40042
e.g. A PAIR OF TWEEZERS
HEATING
HEATING
B
SOLDERING IRON
CLEANING
SOLDER WICK
C


MOUNTING
e.g. A PAIR OF TWEEZERS
A
SOLDER
ø0.5-0.8mm
SOLDERING IRON
PRESSURE
SOLDERING TIME
<3 sec/side
SOLDER
ø0.5-0.8mm
PRESSURE
SOLDERING IRON
B


PRECAUTIONS
SOLDERING IRON
CORRECT
COPPER TRACK
SOLDERING IRON
CHIP COMPONENT


EXAMPLES
CORRECT
SOLDERING IRON
NO!

ESD

GB WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD).
Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

CLASS 1
LASER PRODUCT
3122 110 03420

GB Warning !

Invisible laser radiation when open.
Avoid direct exposure to beam.

S Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

SF Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

DK Advarse !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

DISMANTLING INSTRUCTIONS

Dismantling of the Front Panel assembly

1) Loosen the 9 screws to dismantle the Top Cover (pos 252)
   - 2 screws on each side
   - 5 screws on the Rear Panel (pos 251).

2) Loosen 5 screws A and 8 catches C1 to slide the Front Panel assembly (pos 101, 102, 103, etc) as per figure 1.

   Note: **To remove the Source / Volume control pc board (pos 1105B) 2 nuts hidden below the control knob assembly (pos 133, 134 and 135) must first be removed.**

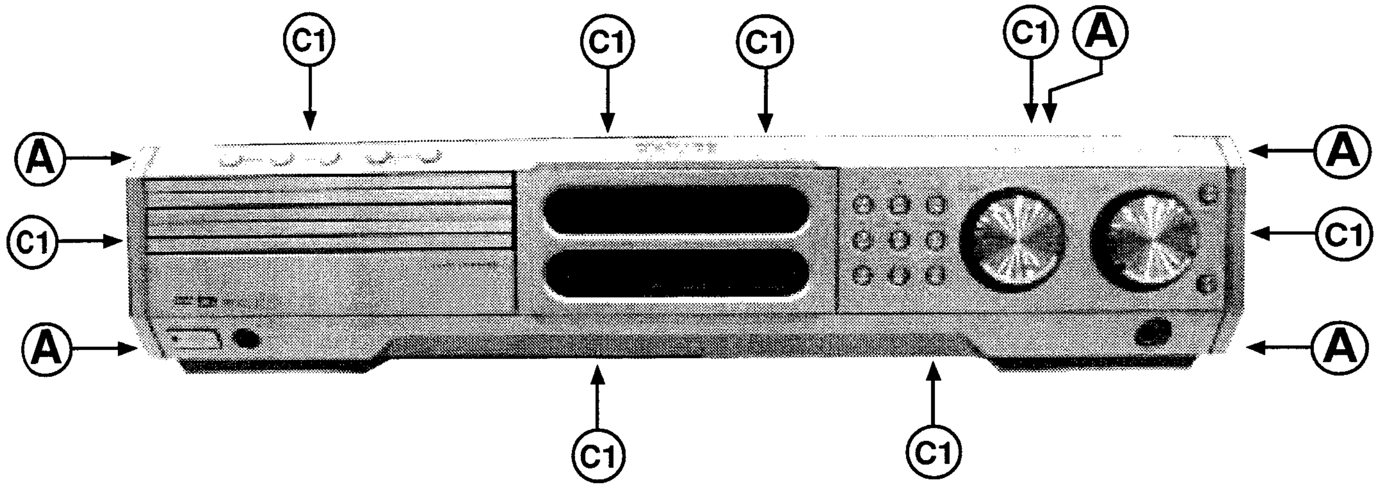

C1
C1
C1
C1
A
A
A
C1
C1
A
A
C1
C1

Figure 1

Hints for re-assembly of Top Cover

Due to appearance design the Top cover (pos 252) is sandwiched between the Front panel (pos 101) and the 2 side covers (pos 102 & 103), this make it necessary to remove the 2 side covers before re-assembly of Top cover.

1) To remove the side cover use a small screw driver with marking 16mm from the tip end.

2) Insert the screw driver into slot (as shown in figure 2) and push the tip outwards to release the side cover catch. The side cover can be pull outwards as soon as the top catch is released.

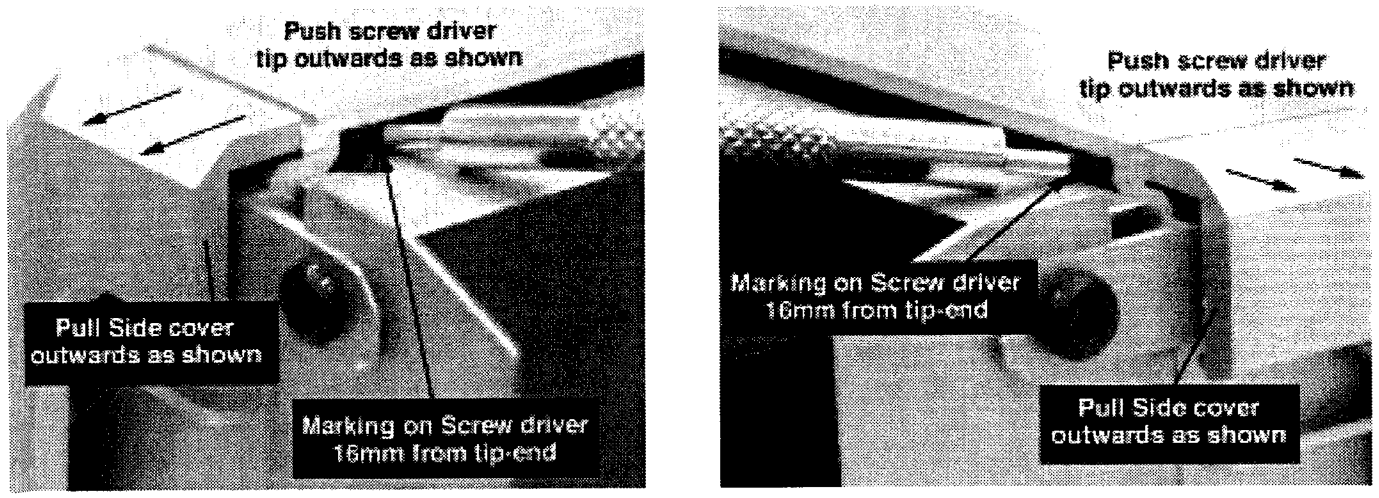

Push screw driver tip outwards as shown
Pull Side cover outwards as shown
Marking on Screw driver 16mm from tip-end
Push screw driver tip outwards as shown
Marking on Screw driver 16mm from tip-end
Pull Side cover outwards as shown

Figure 2

Dismantling the Tuner, Mains and AV boards

1) Loosen 3 screws D and 2 catches C2 on the Rear panel (pos 251) to remove the Tuner board assemby (pos 1101) as pe figure 3.

2) Loosen 1 screws E and 2 catches C3 to unslot the Mains board (pos 1102-A) out of the Rear panel as per figure 4.

3) Loosen bracket (pos 254) by turning a catch, sliding towards the outside and lifting it upwards as per figure 5.

4) Loosen 7 screws F and 2 C5 to separate Rear Plate assembly (pos 251 + 227) from the Bottom plate as per figure 3.

5) Uncatch C4 to remove the AV board (pos 1104) from the Bottom & Rear Plate assembly (pos 251 + 227) as per figure 5.

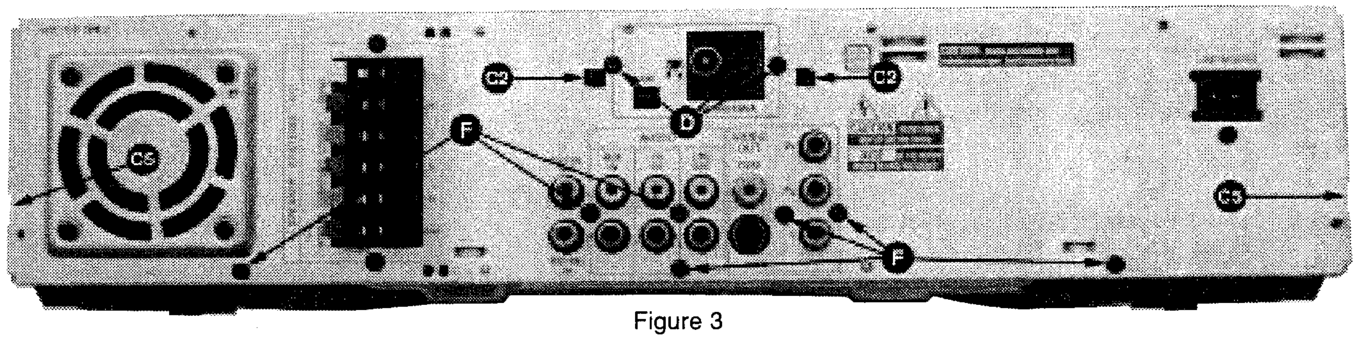

C2
C2
D
F
C5
C5
F

Figure 3

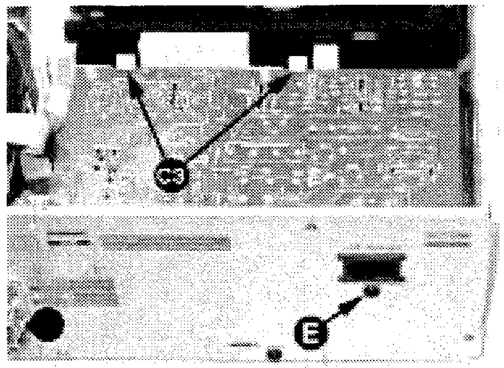
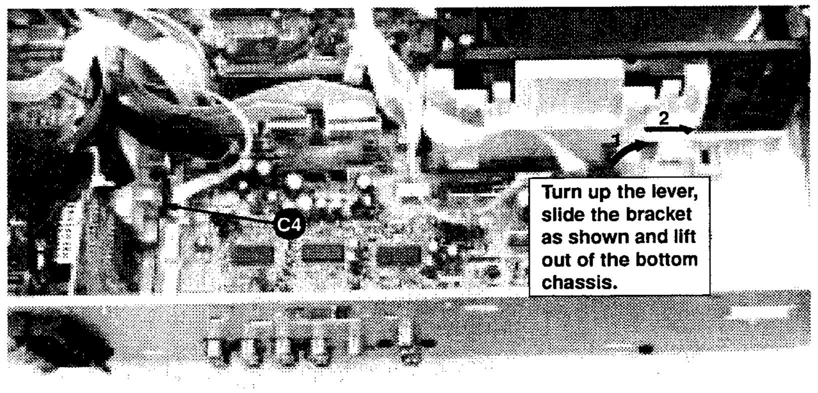


Figure 4



Turn up the lever, slide the bracket as shown and lift out of the bottom chassis.

Figure 5

Dismantling the 5DTC Module

1) Loosen 1 screws E and 2 catches C3 to remove the Mains board as per figure 4.

2) Loosen bracket (pos 254) by turning a catch, sliding towards the outside and lifting it upwards as per figure 5.

3) Loosen 3 screws G, lift up the 5DTC Module's (pos 1103-A) rear and pull the module out towards the rear as per figure 6.

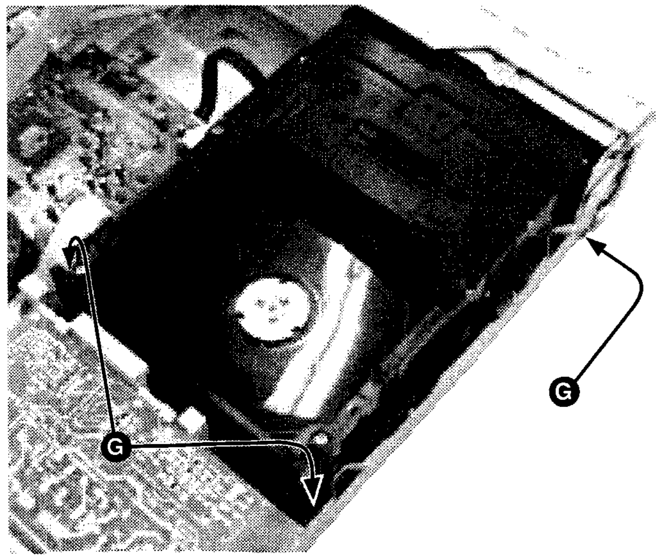


Figure 6

ismantling the Mono FE and BE boards

) Loosen 2 screws and 2 catches to remove the Mono BE board (pos 1103-B).

) Loosen 2 screws and 2 catches to remove the Mono FE board (pos 1103-C).

ismantling the Supply & Power Amplifier boards

) Loosen 2 screws B mounting the Supply board's (pos 1102-B) heatsink to the Bottom Plate (pos 227) as per figure 7.

Note: During re-assembly care must be taken to ensure the Mains Transformer wires to the Supply board is routed properly below the board.

) Loosen 4 screws C to dismantle the Power Amplifier board (pos 1102-D) from the Bottom Plate as per figure 7.

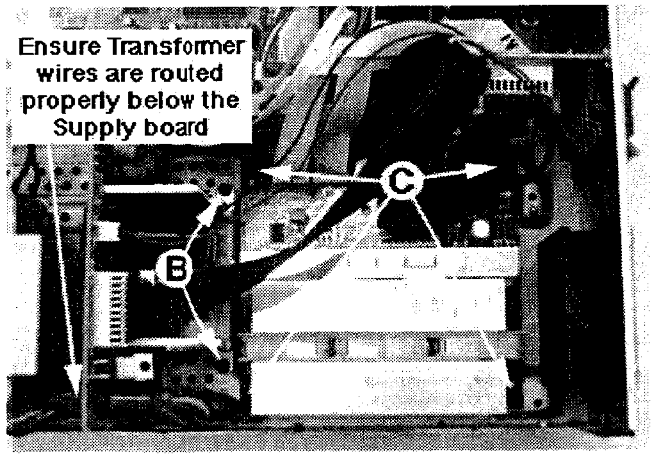
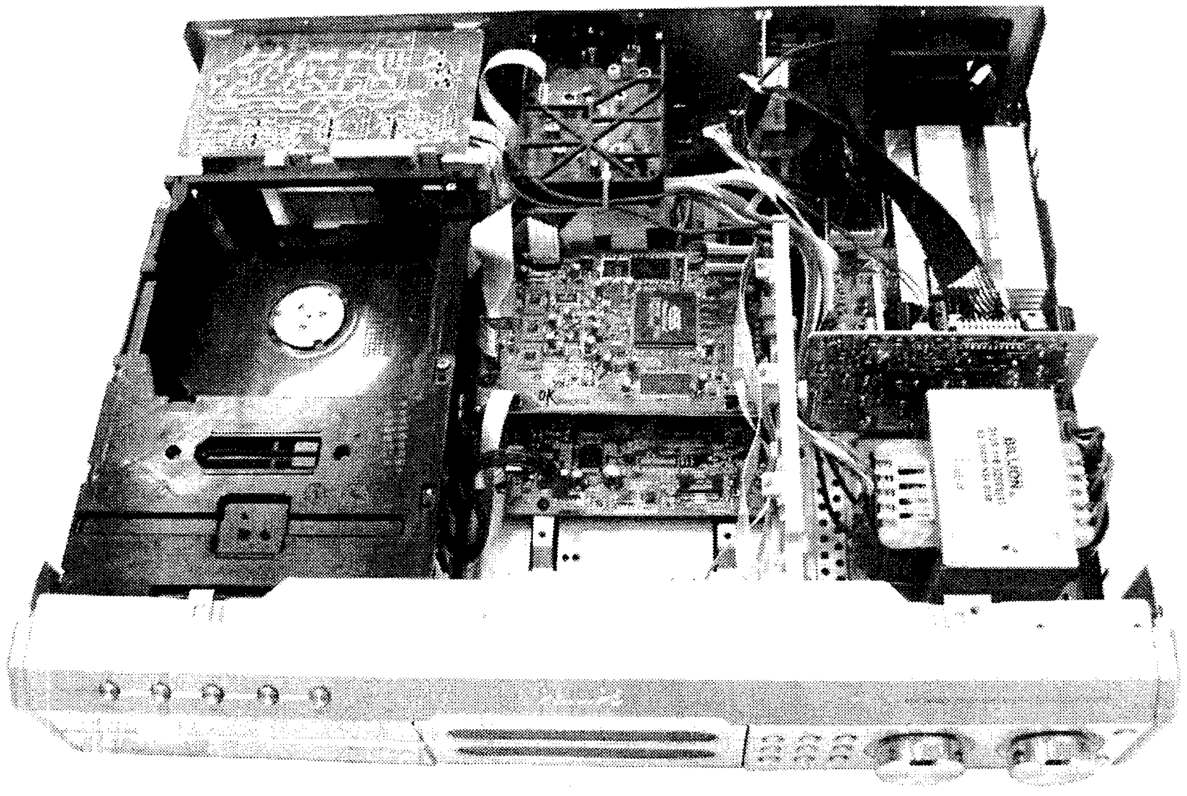

Ensure Transformer wires are routed properly below the Supply board
C
B

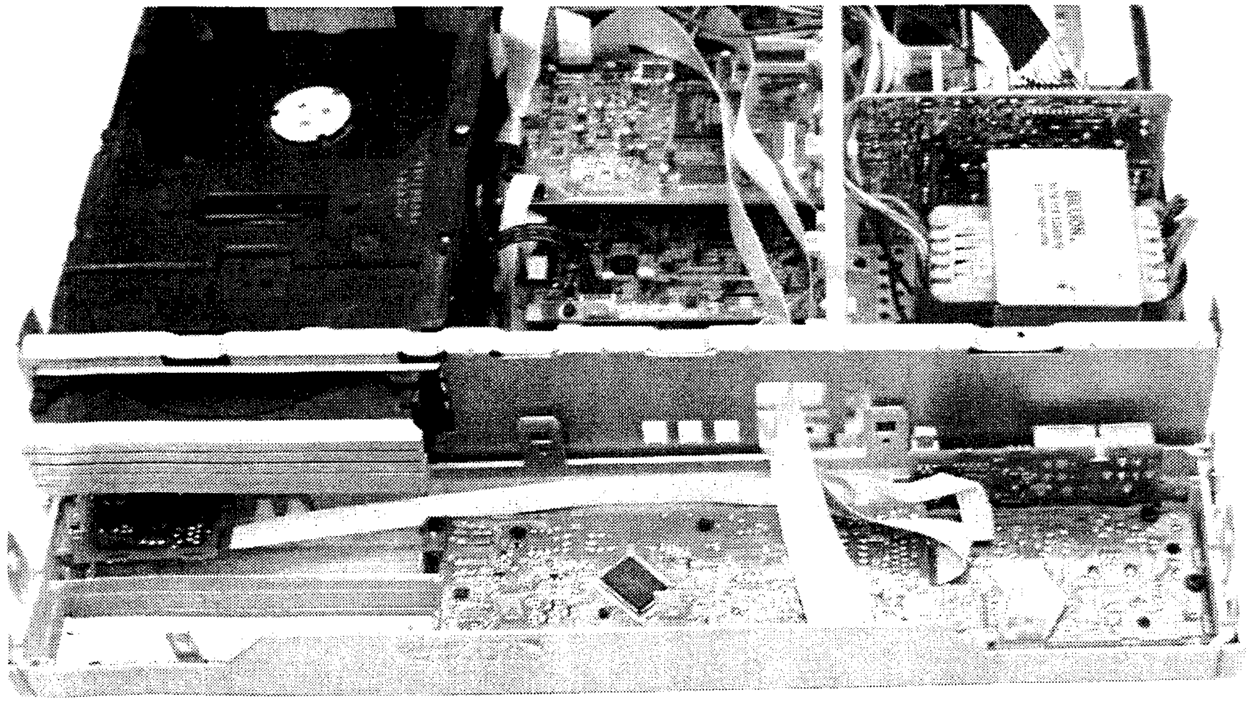
Figure 7

Service positions

Service position A (Top cover removed)

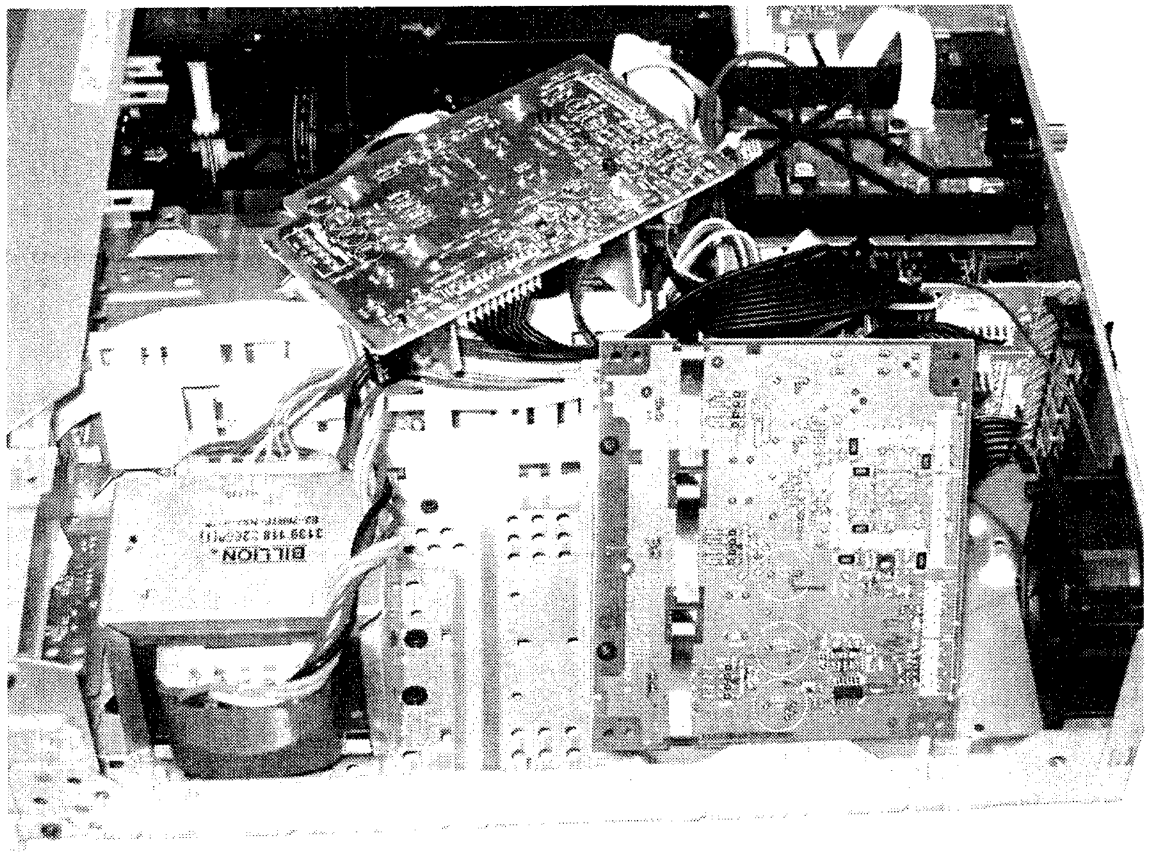


Service position B (Front Panel loosen)



Service positions

Service position C (Supply and Amplifier boards loosen)



Caution:

1) In some of the service positions the Mains supply is exposed, therefore service technicians have to exercise care to prevent electric shock.

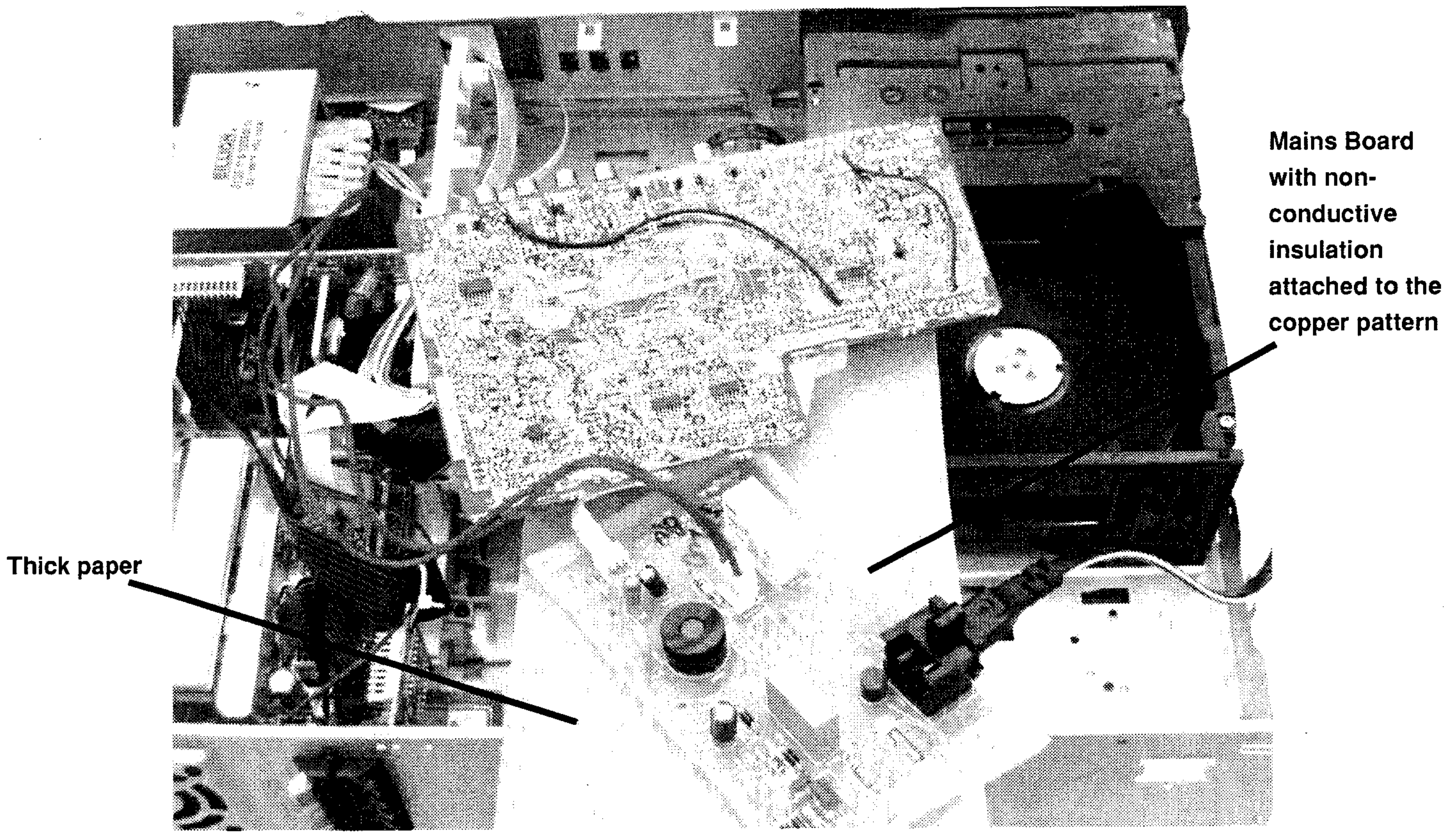
2) The copper pattern on the Mains board should be covered with non-conductive insulation during fault-finding on other parts of the set.

3) Insulation sheet (eg. thick paper or cardboard) should be use during fault-finding to prevent short-circuiting of copper patterns to metallic surroundings.

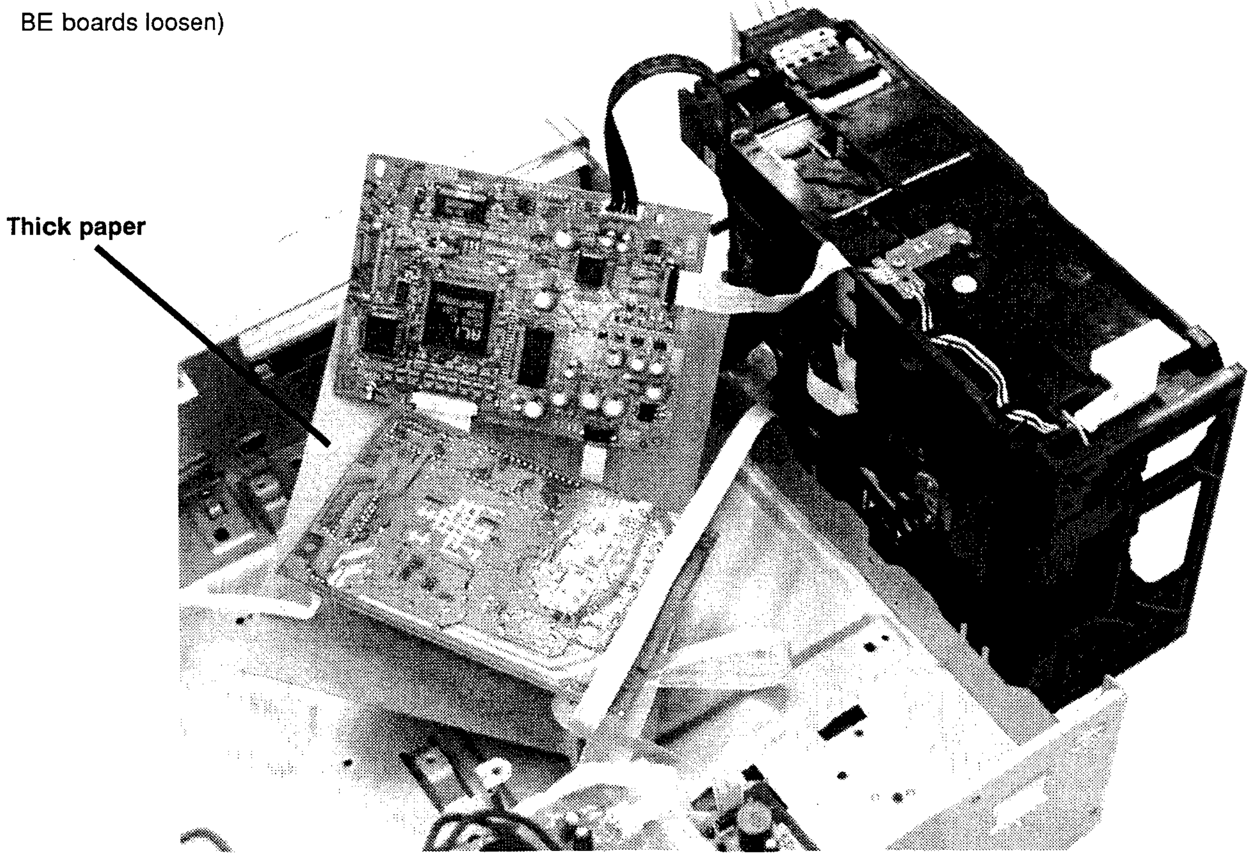
Note:

The ground connection between AV board stoko pin 1100 and Amplifier board stoko pin 1320 must be connect ed during Service pos C and D in order to have sound output at the Loudspeakers.

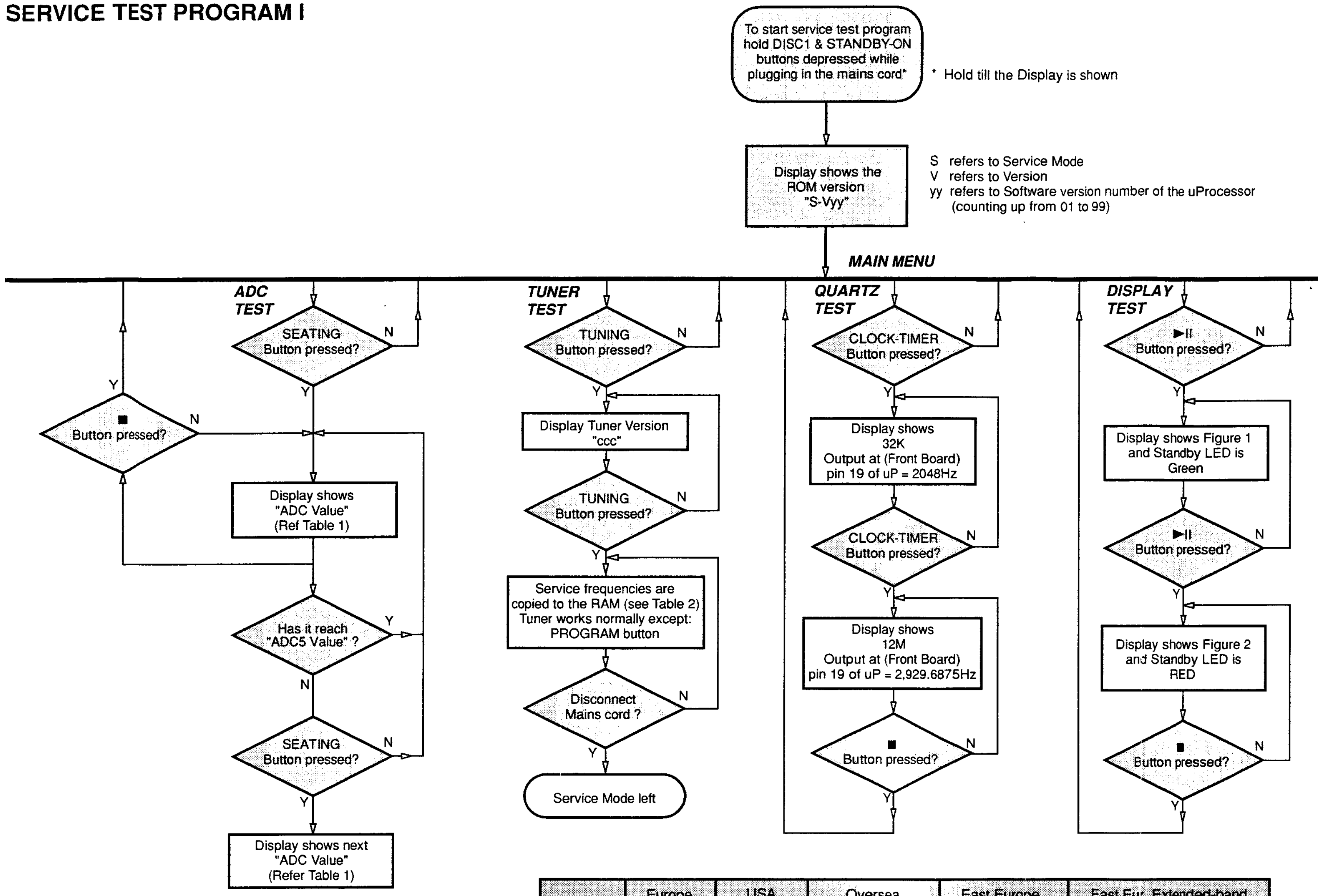
Service position D (Mains & AV boards loosen)


Mains Board with non-conductive insulation attached to the copper pattern
Thick paper

Service position E (5DTC Mechanism, Mono FE and Mono BE boards loosen)


Thick paper

SERVICE TEST PROGRAM I


To start service test program hold DISC1 & STANDBY-ON buttons depressed while plugging in the mains cord*
* Hold till the Display is shown
Display shows the ROM version "S-Vyy"
S refers to Service Mode
V refers to Version
yy refers to Software version number of the uProcessor (counting up from 01 to 99)
MAIN MENU
ADC TEST
SEATING Button pressed?
N
Y
■ Button pressed?
Y
N
Display shows "ADC Value" (Ref Table 1)
Has it reach "ADC5 Value" ?
Y
N
SEATING Button pressed?
N
Y
Display shows next "ADC Value" (Refer Table 1)
TUNER TEST
TUNING Button pressed?
N
Y
Display Tuner Version "ccc"
TUNING Button pressed?
N
Y
Service frequencies are copied to the RAM (see Table 2) Tuner works normally except: PROGRAM button
Disconnect Mains cord ?
N
Y
Service Mode left
QUARTZ TEST
CLOCK-TIMER Button pressed?
N
Y
Display shows 32K Output at (Front Board) pin 19 of uP = 2048Hz
CLOCK-TIMER Button pressed?
N
Y
Display shows 12M Output at (Front Board) pin 19 of uP = 2,929.6875Hz
■ Button pressed?
N
Y
DISPLAY TEST
►II Button pressed?
N
Y
Display shows Figure 1 and Standby LED is Green
►II Button pressed?
N
Y
Display shows Figure 2 and Standby LED is RED
■ Button pressed?
N
Y

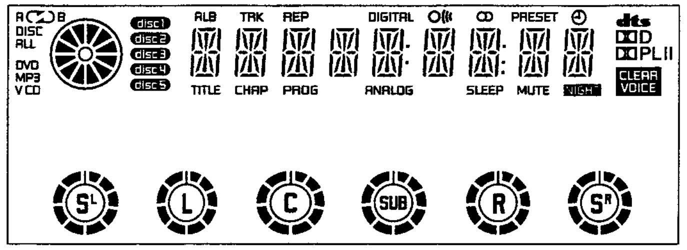

A B
DISC
ALL
DVD
MP3
VCD
disc1
disc2
disc3
disc4
disc5
ALB
TRK
REP
DIGITAL
PRESET
TITLE
CHAP
PROG
ANALOG
SLEEP
MUTE
NIGHT
dts
D
PL II
CLEAR VOICE
S^L
L
C
SUB
R
S^R

Figure 1

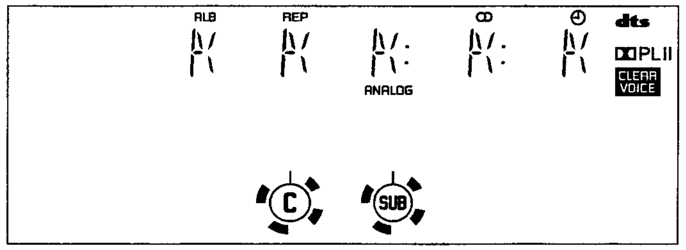

ALB
REP
ANALOG
dts
PL II
CLEAR VOICE
C
SUB

Figure 2

Name	Input line to uProcessor IC	Remarks
ADC1	Key0	Return the value assign for each key button.
ADC2	Key1	Return the value assign for each key button.
ADC3	VU_IN	Varies according to the signal dc level
ADC4	MUX_DET	The set temperature is measured via this NTC line, if lower than 69 the set goes into Standby.
ADC5	Options	Return the value assign for the different possible options

Table 1

Note:
ADC Test is used for checking the ADC inputs to the microprocessor. The display shows an ADC value between 0 and 255 for an input signal between 0 and 5V.

PRESET	Europe "EUR"	USA "USA"	Oversea "OSE"	East Europe "EAS"	East Eur. Extended-band "EAS"
1	87.5MHz	87.5MHz	87.5MHz	87.5MHz	65.81MHz
2	108MHz	108MHz	108MHz	108MHz	108MHz
3	531kHz	530kHz	530/531kHz*	531kHz	74MHz
4	1602kHz	1700kHz	1700/1602kHz*	1602kHz	87.5MHz
5	558kHz	560kHz	560/558kHz*	558kHz	531kHz
6	1494kHz	1500kHz	1500/1494kHz*	1494kHz	1602kHz
7	87.5MHz	98MHz	98/87.5MHz*	87.5MHz	558kHz
8	87.5MHz	87.5MHz	87.5MHz	87.5MHz	1494kHz
9	87.5MHz	87.5MHz	87.5MHz	87.5MHz	98MHz
10	87.5MHz	87.5MHz	87.5MHz	87.5MHz	70.01MHz
11	98MHz	87.5MHz	87.5/98MHz*	98MHz	65.81MHz

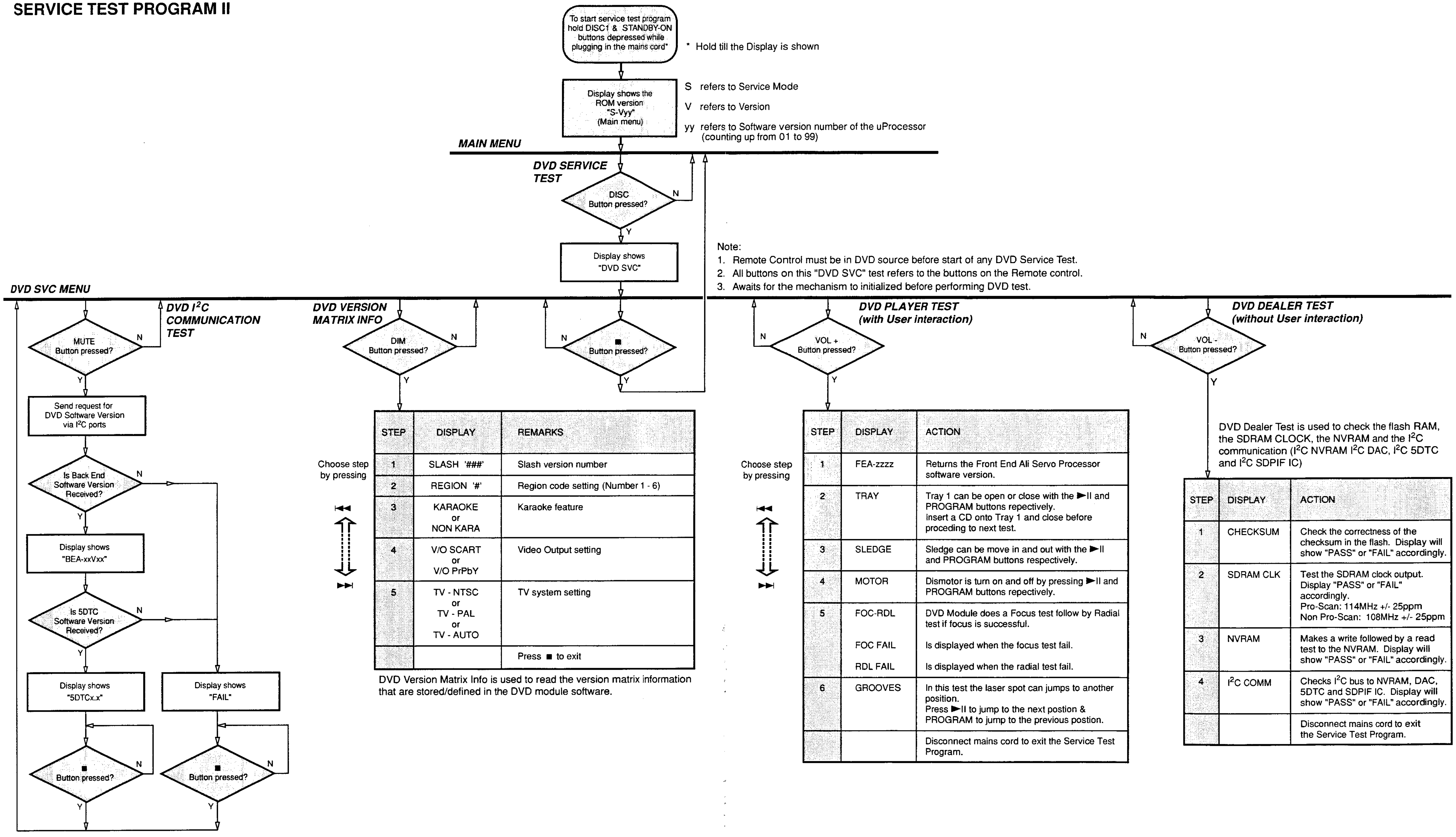
Table 2

Note: * Depending on the selected grid frequency (9 or 10kHz).
By holding the "DISC5" and "STANDBY-ON" buttons depressed while switching on the Mains supply, one of the undermentioned features will be activated:
- the tuning grid frequency is toggled between 9kHz and 10kHz for the Oversea (/21) version.

Various other Tests

TEST	***Activated with***	***ACTION***
EEPROM TEST	►►I ■ to Exit	Some test patterns will be sent to the EEPROM. "PASS" is displayed if the uProcessor read back the test patterns correctly, otherwise "FAIL" will be displayed.
EEPROM FORMAT TEST	I◄◄	Load default data. Display shows "NEW" for 1 second. ***Caution!*** ***All presets from the customer will be lost!!***
AUTO STANDBY TOGGLE	SUBW + (Remote Control)	Pressing this button will toggle between the status "AUTO STANDBY ON" and "AUTO STANDBY OFF". The status will scroll once across the Display.
ROTARY ENCODER TEST	SOURCE / VOLUME Knob	Display shows value for 2 seconds. Values increases or decreases in steps of 1 until 0 (Min.) or 40 (Max.) is reached.
LEAVE SERVICE TEST PROGRAM	Disconnect mains cord	

SERVICE TEST PROGRAM II


To start service test program hold DISC1 & STANDBY-ON buttons depressed while plugging in the mains cord*
* Hold till the Display is shown
Display shows the ROM version "S-Vyy" (Main menu)
MAIN MENU
DVD SERVICE TEST
DISC Button pressed?
N
Y
Display shows "DVD SVC"
DVD SVC MENU
DVD I²C COMMUNICATION TEST
MUTE Button pressed?
Send request for DVD Software Version via I²C ports
Is Back End Software Version Received?
Display shows "BEA-xxVxx"
Is 5DTC Software Version Received?
Display shows "5DTCx.x"
Display shows "FAIL"
■ Button pressed?
DVD VERSION MATRIX INFO
DIM Button pressed?
■ Button pressed?
DVD PLAYER TEST (with User interaction)
VOL + Button pressed?
DVD DEALER TEST (without User interaction)
VOL - Button pressed?
Choose step by pressing
⏮
⏭

S refers to Service Mode

V refers to Version

yy refers to Software version number of the uProcessor (counting up from 01 to 99)

Note:
1. Remote Control must be in DVD source before start of any DVD Service Test.
2. All buttons on this "DVD SVC" test refers to the buttons on the Remote control.
3. Awaits for the mechanism to initialized before performing DVD test.

DVD VERSION MATRIX INFO

STEP	DISPLAY	REMARKS
1	SLASH '###'	Slash version number
2	REGION '#'	Region code setting (Number 1 - 6)
3	KARAOKE or NON KARA	Karaoke feature
4	V/O SCART or V/O PrPbY	Video Output setting
5	TV - NTSC or TV - PAL or TV - AUTO	TV system setting
		Press ■ to exit

DVD Version Matrix Info is used to read the version matrix information that are stored/defined in the DVD module software.

DVD PLAYER TEST (with User interaction)

STEP	DISPLAY	ACTION
1	FEA-zzzz	Returns the Front End Ali Servo Processor software version.
2	TRAY	Tray 1 can be open or close with the ►II and PROGRAM buttons repectively. Insert a CD onto Tray 1 and close before proceding to next test.
3	SLEDGE	Sledge can be move in and out with the ►II and PROGRAM buttons respectively.
4	MOTOR	Dismotor is turn on and off by pressing ►II and PROGRAM buttons repectively.
5	FOC-RDL	DVD Module does a Focus test follow by Radial test if focus is successful.
	FOC FAIL	Is displayed when the focus test fail.
	RDL FAIL	Is displayed when the radial test fail.
6	GROOVES	In this test the laser spot can jumps to another position. Press ►II to jump to the next postion & PROGRAM to jump to the previous postion.
		Disconnect mains cord to exit the Service Test Program.

DVD DEALER TEST (without User interaction)

DVD Dealer Test is used to check the flash RAM, the SDRAM CLOCK, the NVRAM and the I²C communication (I²C NVRAM I²C DAC, I²C 5DTC and I²C SDPIF IC)

STEP	DISPLAY	ACTION
1	CHECKSUM	Check the correctness of the checksum in the flash. Display will show "PASS" or "FAIL" accordingly.
2	SDRAM CLK	Test the SDRAM clock output. Display "PASS" or "FAIL" accordingly. Pro-Scan: 114MHz +/- 25ppm Non Pro-Scan: 108MHz +/- 25ppm
3	NVRAM	Makes a write followed by a read test to the NVRAM. Display will show "PASS" or "FAIL" accordingly.
4	I²C COMM	Checks I²C bus to NVRAM, DAC, 5DTC and SDPIF IC. Display will show "PASS" or "FAIL" accordingly.
		Disconnect mains cord to exit the Service Test Program.

DVD I²C Communication Test is used to test the I²C communication port between the DVD module and the microprocessor of the set.

Reprogramming of DVD version matrix

Caution:
This information is confidential and may not be distributed. Only a qualified service person should reprogram the mono BE board.

After replacement/repair of the Mono BE board, the customer settings and also the region code may be lost. Reprogramming will put the set back in the state in which it has left the factory, i.e. with the default settings and the allowed region code.

Reprogramming will be done by way of the Remote Control.
Put the player in stop mode, Disc 1 with no disc loaded.

Do the following steps with the Remote Control:

1) Press ***<DISC MENU>*** followed by numerical keys ***<1> <5> <9>***
   The set display shows: ***- 0 - 0 - 0 - 0 -***

2) Press now successively the following numerical keys :
   for MX3900D/37 : ***<1><1><4> <0><1><0> <0><0>*** ***US***

   for MX3910D/17 : ***<1><1><4> <0><1><0> <0><0>*** ***US***
   for MX3910D/78 : ***<4><1><4> <0><1><0> <0><0>*** ***LATAM***

   for MX3950D/37 : ***<1><1><4> <0><1><0> <0><0>*** ***US***

   for MX3960D/17 : ***<1><1><4> <0><1><0> <0><0>*** ***US***

3) Press ***<DISC MENU>*** again. The set display will show: ***DONE***.
   Caution: The set needs about 3 seconds to reset to required setting.

4) Disconnect mains to ensure proper reset.

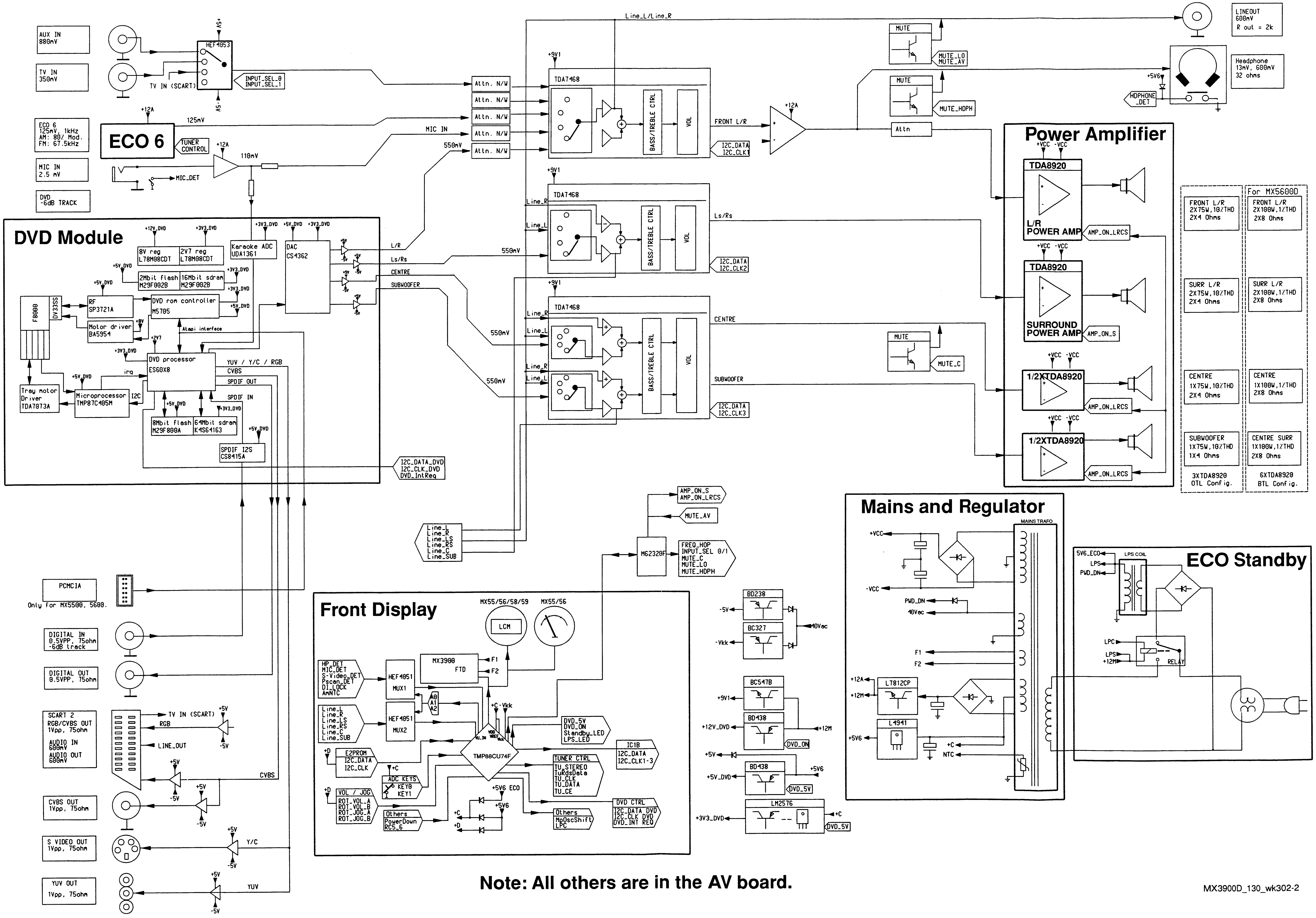
Procedure for check Software version

1) Select Disc with the Remote Control
2) Press <SYSTEM MENU>
3) Use the down key move all the way down (4x) to bottom of "Setup Menu".
4) Use the right key move to the sub-menu.
5) Use the down key move down (3x) to "Default" and down one more time to see the software version.
6) The TV screen will shows:
   R1000 BEA3131PV08 R2812 V72
   where 1000 = DVD version matrix (Region, Karaoke Yes/No, Default Video O/P, Default TV system)
   31V08 = BE software version
   2812 = FE software version
   72 = 5DTC servo version
7) Press <OK> three times to exit.

Procedure to upgrade software

1) Power up the set and open tray Disc 1.
2) Place upgrade CD-ROM onto tray and close.
3) The set will display "DOWNLOAD" while the TV screen will shows:
   Reading --> Update BEA --> Writing --> Done --> Update FEA --> FEA Finish --> Unload Disc 1
4) Tray Disc 1 should then open.
5) The whole process should last for less than 2 minutes. Remove the upgrade CD-ROM and unplug the Mains supply.

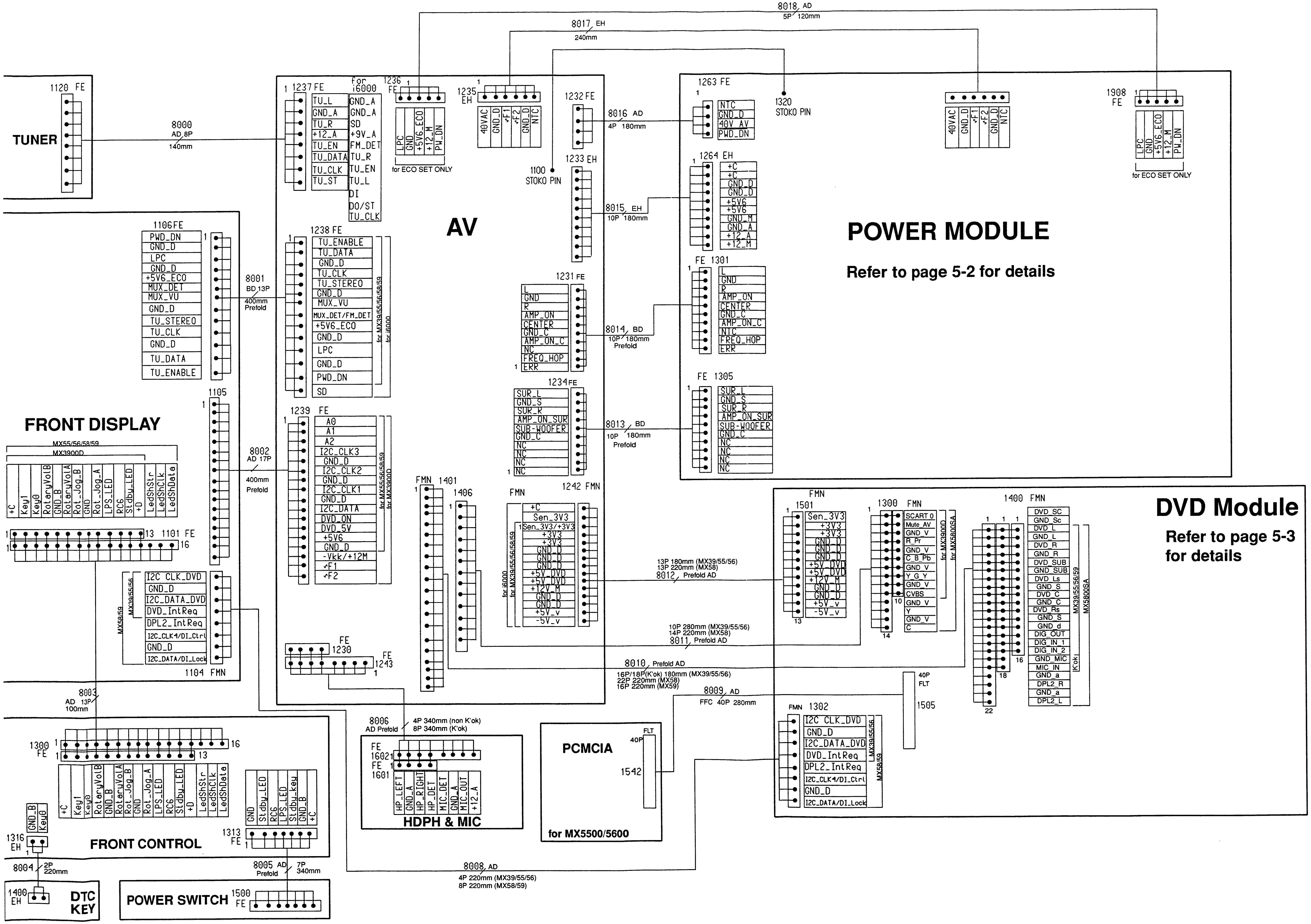
SET BLOCK DIAGRAM


AUX IN 800mV
TV IN 350mV
TV IN (SCART)
HEF4053
INPUT_SEL_0
INPUT_SEL_1
ECO 6 125mV, 1kHz AM: 80% Mod. FM: 67.5kHz
ECO 6
TUNER CONTROL
125mV
MIC IN 2.5 mV
MIC_DET
110mV
MIC IN
550mV
DVD -6dB TRACK
Attn. N/W
Line_L/Line_R
TDA7468
BASS/TREBLE CTRL
VOL
FRONT L/R
I2C_DATA
I2C_CLK1
I2C_CLK2
I2C_CLK3
Ls/Rs
CENTRE
SUBWOOFER
Line_R
Line_L
MUTE
MUTE_LO
MUTE_AV
MUTE_HDPH
MUTE_C
Attn
LINEOUT 600mV R out = 2k
Headphone 13mV, 600mV 32 ohms
HDPHONE_DET
Power Amplifier
TDA8920
L/R POWER AMP
SURROUND POWER AMP
1/2XTDA8920
AMP_ON_LRCS
AMP_ON_S
FRONT L/R 2X75W,10/THD 2X4 Ohms
SURR L/R 2X75W,10/THD 2X4 Ohms
CENTRE 1X75W,10/THD 2X4 Ohms
SUBWOOFER 1X75W,10/THD 1X4 Ohms
3XTDA8920 OTL Config.
For MX5600D
FRONT L/R 2X100W,1/THD 2X8 Ohms
SURR L/R 2X100W,1/THD 2X8 Ohms
CENTRE 1X100W,1/THD 2X8 Ohms
CENTRE SURR 1X100W,1/THD 2X8 Ohms
6XTDA8920 BTL Config.
DVD Module
8V reg L78M08CDT
2V7 reg L78M08CDT
Karaoke ADC UDA1361
DAC CS4362
2Mbit flash M29F002B
16Mbit sdram M29F002B
RF SP3721A
DVD rom controller M5705
Motor driver BA5954
Atapi interface
DVD processor ES60X8
Tray motor Driver TDA7073A
Microprocessor TMP87C405M
8Mbit flash M29F800A
64Mbit sdram K4S64163
SPDIF I2S CS8415A
F8000
DV33SS
YUV / Y/C / RGB
CVBS
SPDIF OUT
SPDIF IN
L/R
I2C_DATA_DVD
I2C_CLK_DVD
DVD_IntReq
AMP_ON_S
AMP_ON_LRCS
MUTE_AV
M62320F
FREQ_HOP
INPUT_SEL 0/1
MUTE_C
MUTE_LO
MUTE_HDPH
Line_L
Line_R
Line_LS
Line_RS
Line_C
Line_SUB
PCMCIA
Only for MX5500, 5600.
DIGITAL IN 0.5VPP, 75ohm -6dB track
DIGITAL OUT 0.5VPP, 75ohm
SCART 2 RGB/CVBS OUT 1Vpp, 75ohm AUDIO IN 600mV AUDIO OUT 600mV
TV IN (SCART)
RGB
LINE_OUT
CVBS OUT 1Vpp, 75ohm
S VIDEO OUT 1Vpp, 75ohm
Y/C
YUV OUT 1Vpp, 75ohm
YUV
Front Display
MX55/56/58/59
MX55/56
LCM
MX3900 FTD
F1
F2
HP_DET
MIC_DET
S-Video_DET
Pscan_DET
DI_LOCK
AmNTC
HEF4051 MUX1
HEF4051 MUX2
E2PROM
I2C_DATA
I2C_CLK
ADC KEYS
KEY0
KEY1
VOL / JOG
ROT_VOL_A
ROT_VOL_B
ROT_JOG_A
ROT_JOG_B
Others
PowerDown
RC5_6
TMP88CU74F
DVD_5V
DVD_ON
Standby_LED
LPS_LED
IC1B
I2C_DATA
I2C_CLK1-3
TUNER CTRL
TU_STEREO
TuRdsData
TU_CLK
TU_DATA
TU_CE
DVD CTRL
I2C_DATA_DVD
I2C_CLK_DVD
DVD_INT_REQ
Others
MpOscShift
LPC
+5V6 ECO
BD238
BC327
40Vac
BC547B
BD438
DVD_ON
BD438
DVD_5V
LM2576
Mains and Regulator
MAINS TRAFO
+VCC
-VCC
PWD_DN
40Vac
F1
F2
L7812CP
L4941
+12A
+12M
+5V6
+C
NTC
ECO Standby
5V6_ECO
LPS
PWD_DN
LPS COIL
LPC
RELAY

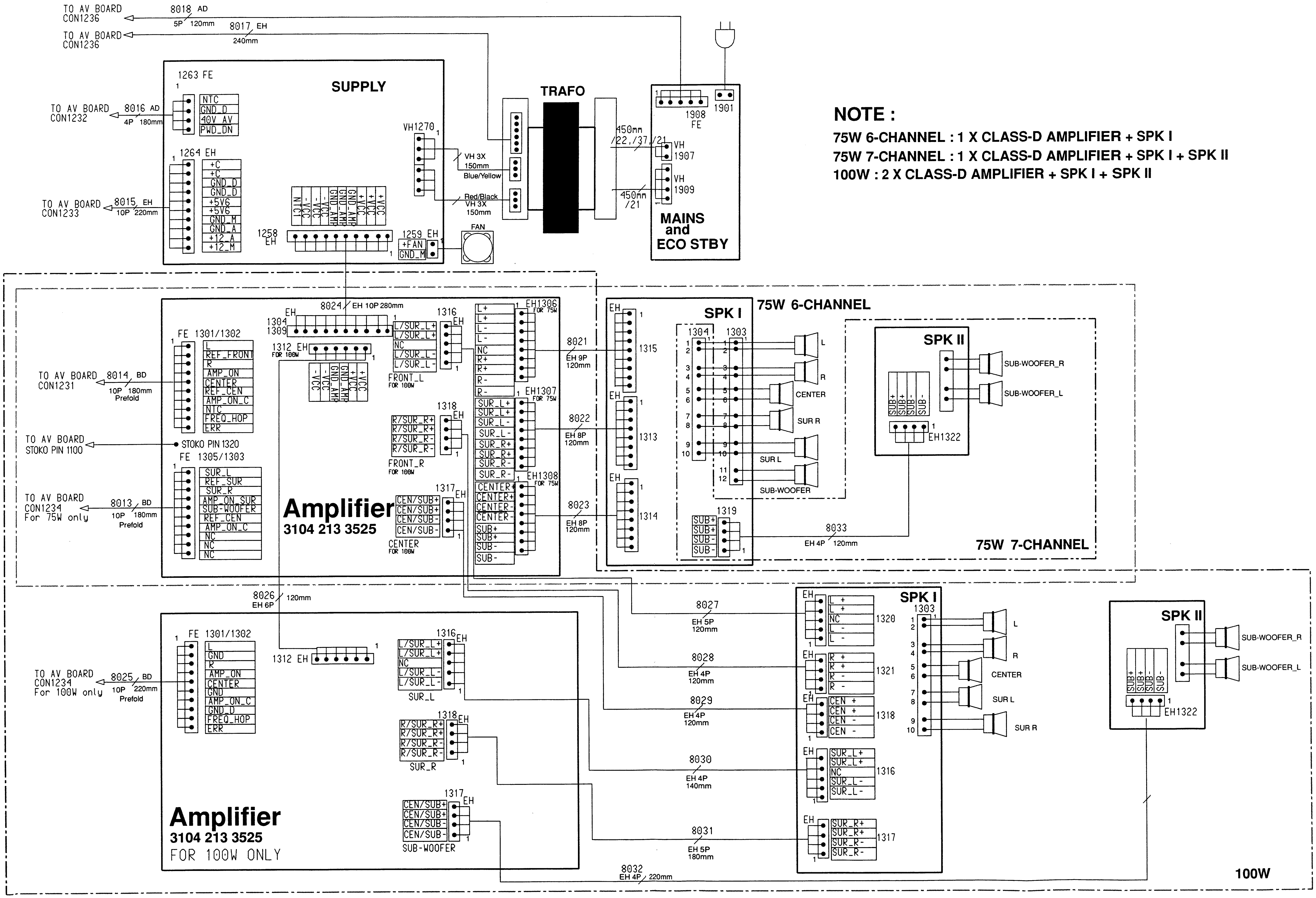
Note: All others are in the AV board.

MX3900D_130_wk302-2

AIN WIRING DIAGRAM


TUNER
1120 FE
8000 AD 8P 140mm
AV
1237 FE
TU_L
GND_A
TU_R
+12_A
TU_EN
TU_DATA
TU_CLK
TU_ST
For i6000
1236 FE
for ECO SET ONLY
1235 EH
40VAC
GND_D
+F1
+F2
NTC
1232 FE
1233 EH
1100 STOKO PIN
8017 EH 240mm
8018 AD 5P 120mm
8016 AD 4P 180mm
8015 EH 10P 180mm
8014 BD 10P 180mm Prefold
8013 BD 10P 180mm Prefold
POWER MODULE
Refer to page 5-2 for details
1263 FE
1320 STOKO PIN
1264 EH
FE 1301
FE 1305
1908 FE
for ECO SET ONLY
1106FE
8001 BD 13P 400mm Prefold
1238 FE
1231 FE
1234FE
FRONT DISPLAY
MX55/56/58/59
MX3900D
1105
8002 AD 17P 400mm Prefold
1239 FE
1101 FE
1104 FMN
FMN 1401
1406
1242 FMN
8012 Prefold AD
13P 180mm (MX39/55/56)
13P 220mm (MX58)
8011 Prefold AD
10P 280mm (MX39/55/56)
14P 220mm (MX58)
8010 Prefold AD
16P/18P(K'ok) 180mm (MX39/55/56)
22P 220mm (MX58)
16P 220mm (MX59)
8009 AD FFC 40P 280mm
DVD Module
Refer to page 5-3 for details
FMN 1501
1300 FMN
1400 FMN
1505
40P FLT
FMN 1302
FE 1230
FE 1243
8003 AD 13P 100mm
8006 AD Prefold
4P 340mm (non K'ok)
8P 340mm (K'ok)
FE 1602
FE 1601
HDPH & MIC
PCMCIA
1542
for MX5500/5600
1300 FE
FRONT CONTROL
1316 EH
1313 FE
8004 2P 220mm
8005 AD Prefold 7P 340mm
8008 AD
4P 220mm (MX39/55/56)
8P 220mm (MX58/59)
1400 EH
DTC KEY
POWER SWITCH
1500 FE

WIRING DIAGRAM - POWER MODULE DETAILS


TO AV BOARD CON1236
8018 AD 5P 120mm
8017 EH 240mm
TO AV BOARD CON1236
SUPPLY
1263 FE
NTC
GND_D
40V AV
PWD_DN
TO AV BOARD CON1232
8016 AD 4P 180mm
1264 EH
+C
+C
GND_D
GND_D
+5V6
+5V6
GND_M
GND_A
+12_A
+12_M
TO AV BOARD CON1233
8015 EH 10P 220mm
NTC1
-VCC
-VCC
GND_AMP
GND_AMP
GND_AMP
+VCC
+VCC
+VCC
1258 EH
1259 EH
+FAN
GND_M
FAN
VH1270
VH 3X 150mm Blue/Yellow
Red/Black VH 3X 150mm
TRAFO
450mm /22,/37,/21
450mm /21
VH 1907
VH 1909
1908 FE
1901
MAINS and ECO STBY
Amplifier
3104 213 3525
FE 1301/1302
L
REF_FRONT
R
AMP_ON
CENTER
REF_CEN
AMP_ON_C
NTC
FREQ_HOP
ERR
TO AV BOARD CON1231
8014 BD 10P 180mm Prefold
TO AV BOARD STOKO PIN 1100
STOKO PIN 1320
FE 1305/1303
SUR_L
REF_SUR
SUR_R
AMP_ON_SUR
SUB-WOOFER
REF_CEN
AMP_ON_C
NC
NC
NC
TO AV BOARD CON1234 For 75W only
8013 BD 10P 180mm Prefold
8024 EH 10P 280mm
EH 1304 1309
1312 EH FOR 100W
-VCC
-VCC
GND_AMP
GND_AMP
+VCC
+VCC
L/SUR_L+
L/SUR_L+
NC
L/SUR_L-
L/SUR_L-
FRONT_L FOR 100W
1316 EH
1318 EH
R/SUR_R+
R/SUR_R+
R/SUR_R-
R/SUR_R-
FRONT_R FOR 100W
1317 EH
CEN/SUB+
CEN/SUB+
CEN/SUB-
CEN/SUB-
CENTER FOR 100W
EH1306 FOR 75W
L+
L+
L-
L-
NC
R+
R+
R-
R-
EH1307 FOR 75W
SUR_L+
SUR_L+
SUR_L-
SUR_L-
SUR_R+
SUR_R+
SUR_R-
SUR_R-
EH1308 FOR 75W
CENTER+
CENTER+
CENTER-
CENTER-
SUB+
SUB+
SUB-
SUB-
8021 EH 9P 120mm
8022 EH 8P 120mm
8023 EH 8P 120mm
SPK I
75W 6-CHANNEL
EH 1315
EH 1313
EH 1314
1304
1303
L
R
CENTER
SUR R
SUR L
SUB-WOOFER
1319
SUB+
SUB+
SUB-
SUB-
8033 EH 4P 120mm
SPK II
SUB+
SUB+
SUB-
SUB-
EH1322
SUB-WOOFER_R
SUB-WOOFER_L
75W 7-CHANNEL
8026 EH 6P 120mm
Amplifier
3104 213 3525
FOR 100W ONLY
FE 1301/1302
L
GND
R
AMP_ON
CENTER
GND
AMP_ON_C
GND_D
FREQ_HOP
ERR
TO AV BOARD CON1234 For 100W only
8025 BD 10P 220mm Prefold
1312 EH
1316 EH
L/SUR_L+
L/SUR_L+
NC
L/SUR_L-
L/SUR_L-
SUR_L
1318 EH
R/SUR_R+
R/SUR_R+
R/SUR_R-
R/SUR_R-
SUR_R
1317 EH
CEN/SUB+
CEN/SUB+
CEN/SUB-
CEN/SUB-
SUB-WOOFER
8027 EH 5P 120mm
8028 EH 4P 120mm
8029 EH 4P 120mm
8030 EH 4P 140mm
8031 EH 5P 180mm
8032 EH 4P 220mm
SPK I
EH 1320
L +
L +
NC
L -
L -
EH 1321
R +
R +
R -
R -
EH 1318
CEN +
CEN +
CEN -
CEN -
EH 1316
SUR_L+
SUR_L+
NC
SUR_L-
SUR_L-
EH 1317
SUR_R+
SUR_R+
SUR_R-
SUR_R-
1303
L
R
CENTER
SUR L
SUR R
SPK II
SUB-WOOFER_R
SUB-WOOFER_L
SUB+
SUB+
SUB-
SUB-
EH1322
100W

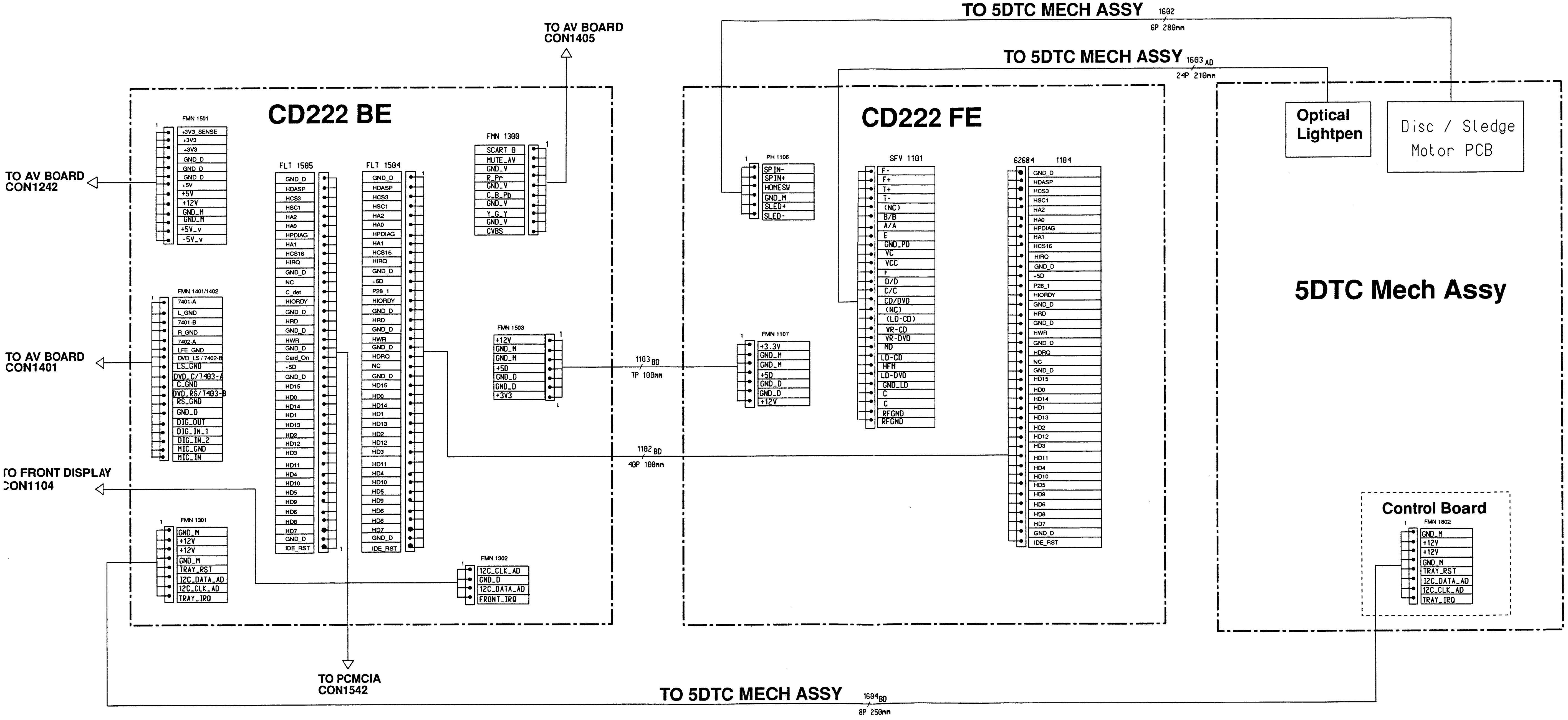
NOTE :

75W 6-CHANNEL : 1 X CLASS-D AMPLIFIER + SPK I

75W 7-CHANNEL : 1 X CLASS-D AMPLIFIER + SPK I + SPK II

100W : 2 X CLASS-D AMPLIFIER + SPK I + SPK II

WIRING DIAGRAM - DVD MODULE DETAILS


TO 5DTC MECH ASSY
1602
6P 280mm
TO 5DTC MECH ASSY
1603 AD
24P 210mm
TO AV BOARD
CON1405
CD222 BE
CD222 FE
Optical Lightpen
Disc / Sledge Motor PCB
5DTC Mech Assy
TO AV BOARD
CON1242
FMN 1501
FLT 1505
FLT 1504
FMN 1300
PH 1106
SFV 1101
62684 1104
TO AV BOARD
CON1401
FMN 1401/1402
FMN 1503
1103 BD
7P 100mm
FMN 1107
1102 BD
40P 100mm
TO FRONT DISPLAY
CON1104
FMN 1301
FMN 1302
Control Board
FMN 1802
TO PCMCIA
CON1542
TO 5DTC MECH ASSY
1604 BD
8P 250mm

FRONT BOARDS

TABLE OF CONTENTS

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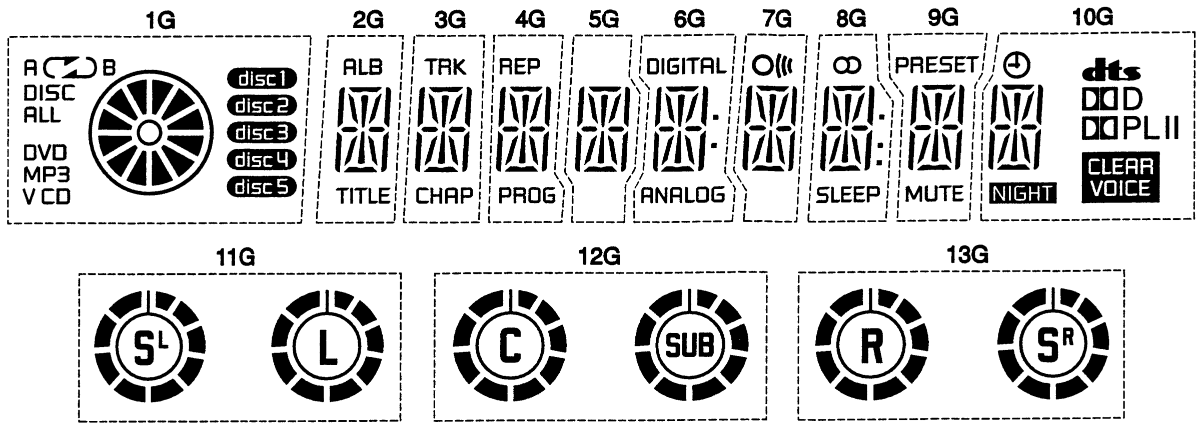
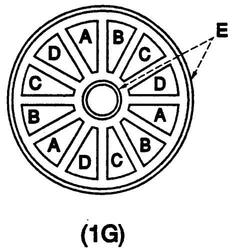
Front Display part - Circuit diagram 6-2
Front Display part - Component & Chip layout 6-3
Front Control part - Circuit diagram 6-4
Front Control part - Component & Chip layout 6-5
Power Switch and DTC Key parts 6-6
HDPH & Mic parts 6-7
Electrical parts list 6-8

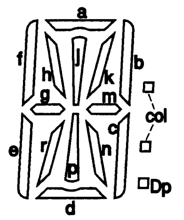
FTD DISPLAY PIN CONNECTIONS



1G
2G
3G
4G
5G
6G
7G
8G
9G
10G
A B
DISC
ALL
DVD
MP3
VCD
disc1
disc2
disc3
disc4
disc5
ALB
TITLE
TRK
CHAP
REP
PROG
DIGITAL
ANALOG
PRESET
SLEEP
MUTE
NIGHT
dts
D
PL II
CLEAR VOICE
11G
12G
13G
S L
L
C
SUB
R
S R

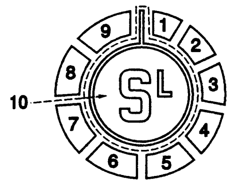


(1G)



a
b
c
d
e
f
g
h
j
k
m
n
p
r
col
Dp

(2G - 10G)



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S L

(11G - 13G)

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	
P1	A	a	a	a	a	a	a	a	a	a	SL1	C1	SR1	
P2	↱	h	h	h	h	h	h	h	h	h	SL2	C2	SR2	
P3	↲	j , p	j , p	j , p	j , p	j , p	j , p	j , p	j , p	j , p	SL3	C3	SR3	
P4	B	k	k	k	k	k	k	k	k	k	SL4	C4	SR4	
P5	DISC	b	b	b	b	b	b	b	b	b	SL5	C5	SR5	
P6	ALL	f	f	f	f	f	f	f	f	f	SL6	C6	SR6	
P7	DVD	m	m	m	m	m	m	m	m	m	SL7	C7	SR7	
P8	MP3	g	g	g	g	g	g	g	g	g	SL8	C8	SR8	
P9	V	c	c	c	c	c	c	c	c	c	SL9	C9	SR9	
P10	CD	e	e	e	e	e	e	e	e	e	SL10	C10	SR10	
P11	A	r	r	r	r	r	r	r	r	r	L1	SUB1	R1	
P12	B	n	n	n	n	n	n	n	n	n	L2	SUB2	R2	
P13	C	d	d	d	d	d	d	d	d	d	L3	SUB3	R3	
P14	D	ALB	TRK	REP	-	col	O(((	col	PRESET	◷	L4	SUB4	R4	
P15	E	TITLE	CHAP	PROG	-	DIGITAL	-	Dp	MUTE	NIGHT	L5	SUB5	R5	
P16	disc1	-	-	-	-	ANALOG	-	∞	-	dts	L6	SUB6	R6	
P17	disc2	-	-	-	-	-	-	SLEEP	-	DD D	L7	SUB7	R7	
P18	disc3	-	-	-	-	-	-	-	-	DD PL	L8	SUB8	R8	
P19	disc4	-	-	-	-	-	-	-	-	II	L9	SUB9	R9	
P20	disc5	-	-	-	-	-	-	-	-	CLEAR VOICE	L10	SUB10	R10	

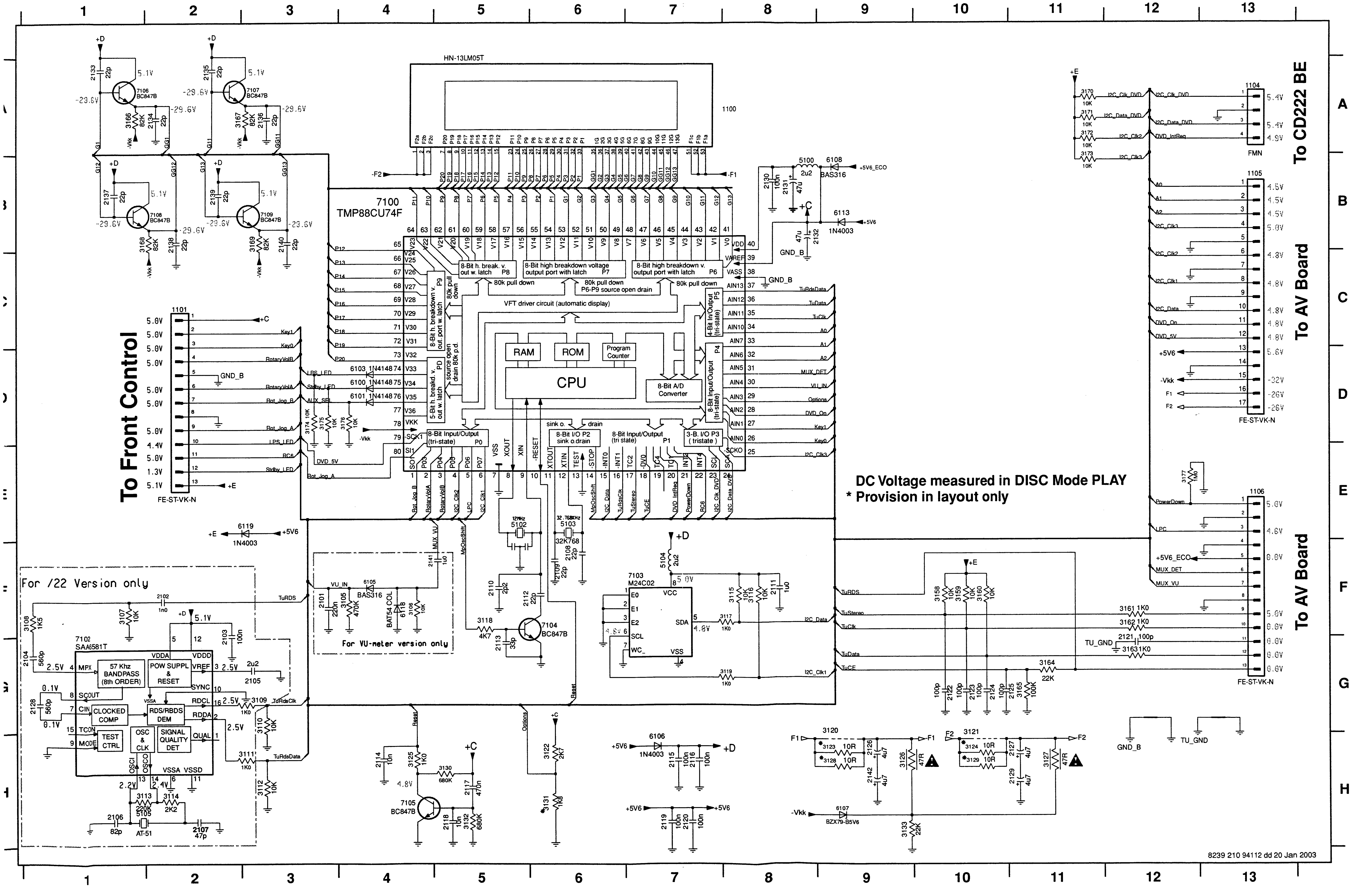
FTD DISPLAY PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
FUNCTION	F2	F2	F2	NP	NP	NX	P20	P19	P18	P17	P16	P15	P14	P13	P12	NX	NX	NX	NX	NX	NX	NX	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NX	1G	2G	3G	4G

FTD DISPLAY PIN NO.	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
FUNCTION	5G	6G	7G	8G	9G	10G	11G	12G	13G	NX	NP	NP	F1	F1	F1

Note: Fn : Filament pin
nG : Grid pin
Pn : Anode pin
NP : No Pin
MX : No extended pin

'RONT DISPLAY PART - CIRCUIT DIAGRAM

1100	A8
1101	C2
1104	A13
1105	B13
1106	E13
2101	F3
2102	F2
2103	F2
2104	G1
2105	G3
2106	H1
2107	H2
2108	F6
2109	F6
2110	F5
2111	F8
2112	F5
2113	G5
2114	H4
2115	H7
2116	H7
2117	H5
2118	H5
2119	H7
2120	H7
2121	G12
2122	G10
2123	G10
2124	G10
2125	G11
2126	H9
2127	H11
2128	G1
2129	H11
2130	B8
2131	B8
2132	B8
2133	A1
2134	A2
2135	A2
2136	A3
2137	B1
2138	B2
2139	B2
2140	B3
2141	F4
2142	H9
3105	F4
3106	F4
3107	F1
3108	F1
3109	G3
3110	G3
3111	H3
3112	H3
3113	H1
3114	H2
3115	F8
3116	F8
3117	F8
3118	F5
3119	G8
3120	G9
3121	H10
3122	H6
3123	H9
3124	H10
3125	H4
3126	H9
3127	H11
3128	H9
3129	H10
3130	H5
3131	H6
3132	H5
3133	H9
3158	F10
3159	F10
3160	F10
3161	F12
3162	F12
3163	G12
3164	G11
3165	G11
3166	A1
3167	A2
3168	B1
3169	B3
3170	A11
3171	A11
3172	A11
3173	B11
3174	D3
3175	D3
3176	D4
3177	E12
5100	B8
5102	E5
5103	E6
5104	F7
5105	H1
6100	D4
6101	D4
6103	D4
6105	F4
6106	H7
6107	H9
6108	B9
6113	B9
6118	F4
6119	E3
7103	F7
7104	F6
7105	H4
7106	A1
7107	A3
7108	B2
7109	B3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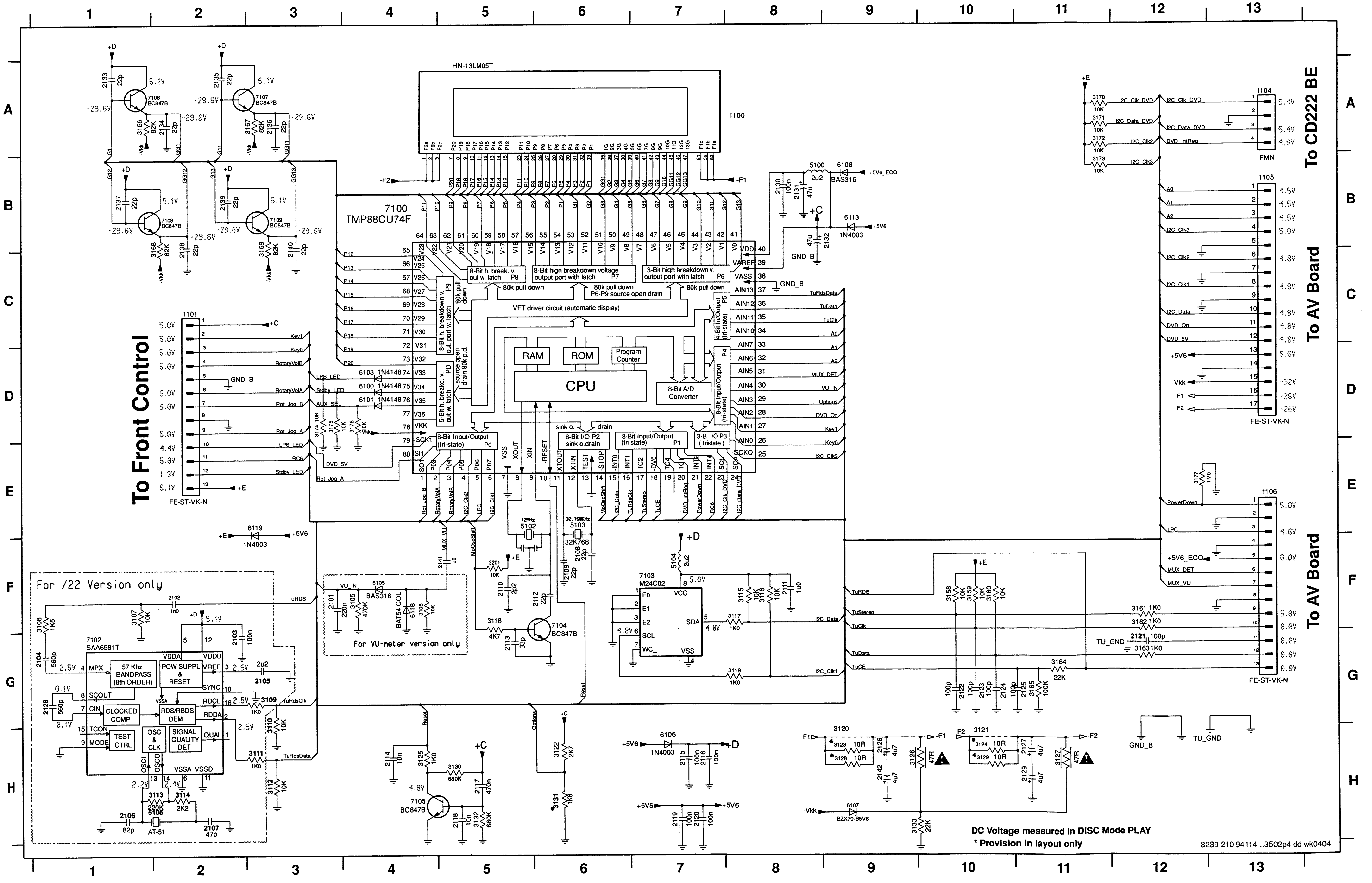
9
10
11
12
13
A
B
C
D
E
F
G
H
HN-13LM05T
1100
7100
TMP88CU74F
8-Bit h. break. v. out w. latch P8
8-Bit high breakdown voltage output port with latch P7
8-Bit high breakdown v. output port with latch P6
80k pull down
80k pull down P6-P9 source open drain
VFT driver circuit (automatic display)
RAM
ROM
Program Counter
CPU
8-Bit A/D Converter
8-Bit Input/Output (tri-state) P0
8-Bit I/O P2 sink o.drain
8-Bit Input/Output (tri state) P1
3-B. I/O P3 (tristate)
4-Bit In/Output (tri-state) P5
8-Bit Input/Output (tri-state) P4
8-bit h. breakdown v. out. port w. latch P9
5-Bit h. breakd. v. out w. latch PD
To Front Control
1101
FE-ST-VK-N
To CD222 BE
1104
FMN
To AV Board
1105
1106
For /22 Version only
7102
SAA6581T
57 Khz BANDPASS (8th ORDER)
POW SUPPL & RESET
CLOCKED COMP
RDS/RBDS DEM
TEST CTRL
OSC & CLK
SIGNAL QUALITY DET
For VU-meter version only
7103
M24C02
7104
BC847B
7105
BC847B
7106
BC847B
7107
BC847B
7108
BC847B
7109
BC847B
6119
1N4003
6106
1N4003
6107
BZX79-B5V6
6108
BAS316
6113
1N4003
6105
BAS316
GND_B
TU_GND
8239 210 94112 dd 20 Jan 2003

DC Voltage measured in DISC Mode PLAY
* Provision in layout only

FRONT DISPLAY PART - CIRCUIT DIAGRAM (For pt 4 board)

1101	C2
1104	A13
1105	B13
1106	E13
2101	F3
2102	F2
2103	G2
2104	G1
2105	G3
2106	H1
2107	H2
2108	F6
2109	F6
2110	F5
2111	F8
2112	F5
2113	G5
2114	H4
2115	H7
2116	H7
2117	H5
2118	H5
2119	H7
2120	H7
2121	G12
2122	G10
2123	G10
2124	G10
2125	G11
2126	H9
2127	H11
2128	G1
2129	H11
2130	B8
2131	B8
2132	B9
2133	A1
2134	A2
2135	A2
2136	A3
2137	B1
2138	B2
2139	B2
2140	B3
2141	F5
2142	H9
3105	F4
3106	F4
3107	F1
3108	F1
3109	G3
3110	G3
3111	H3
3112	H3
3113	H2
3114	H2
3115	F8
3116	F8
3117	F8
3118	F5
3119	G8
3120	H9
3121	H10
3122	H6
3123	H9
3124	H10
3125	H4
3126	H9
3127	H11
3128	H9
3129	H10
3130	H5
3131	H6
3132	H5
3133	H9
3158	F10
3159	F10
3160	F10
3161	F12
3162	F12
3163	G12
3164	G11
3165	G11
3166	A1
3167	A3
3168	B2
3169	B3
3170	A11
3171	A11
3172	A11
3173	B11
3174	D3
3175	D3
3176	D4
3177	E12
3201	F5
5100	B8
5102	E5
5103	E6
5104	F7
5105	H2
6100	D4
6101	D4
6103	D4
6105	F4
6106	H7
6107	H9
6108	B9
6113	B9
6118	F4
6119	E3
7103	F7
7104	F6
7105	H4
7106	A1
7107	A3
7108	B2
7109	B3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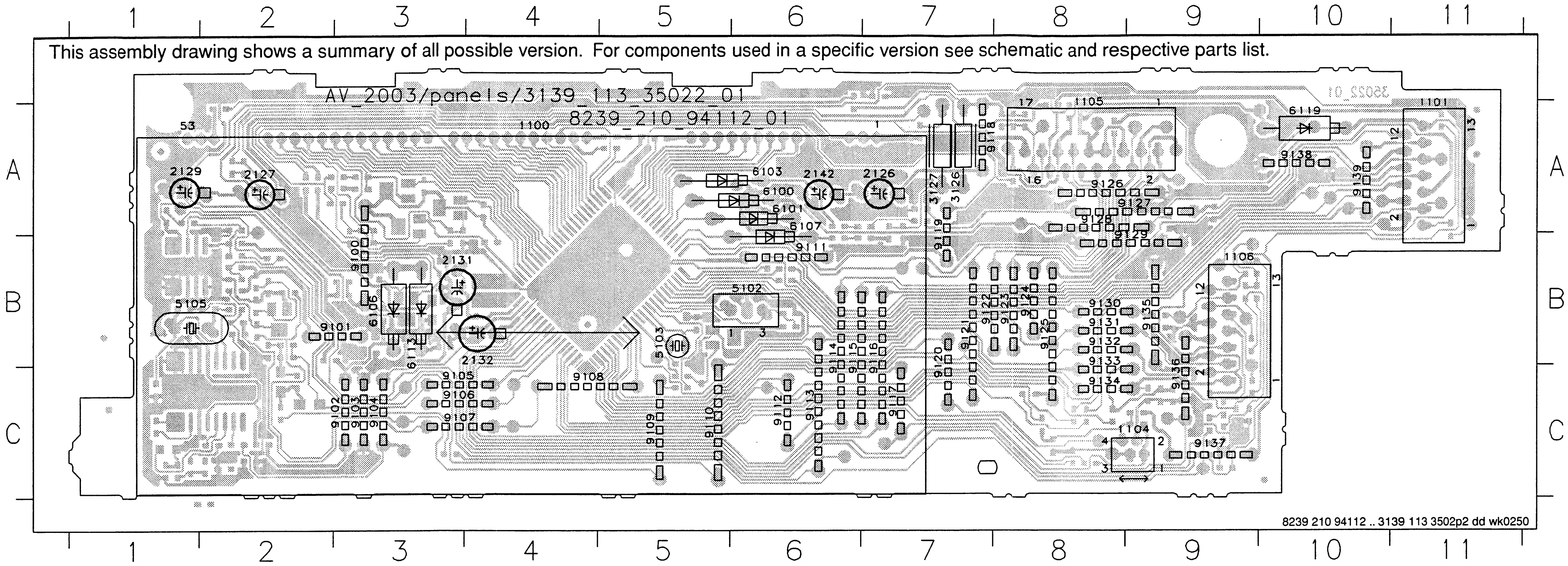
11
12
13
A
B
C
D
E
F
G
H
HN-13LM05T
1100
7100
TMP88CU74F
8-Bit h. break. v. out w. latch P8
8-Bit high breakdown voltage output port with latch P7
8-Bit high breakdown v. output port with latch P6
80k pull down
P6-P9 source open drain
VFT driver circuit (automatic display)
RAM
ROM
Program Counter
CPU
8-Bit A/D Converter
4-Bit In/Output (tri-state) P5
8-Bit Input/Output (tri-state) P4
8-Bit h. breakdown v. out. port w. latch P9
source open drain 80k p.d.
5-Bit h. breakd. v. out w. latch PD
8-Bit Input/Output (tri-state) P0
8-Bit I/O P2 sink o.drain
8-Bit Input/Output (tri state) P1
3-B. I/O P3 (tristate)
sink o.
drain
VDD
VAREF
VASS
VKK
VSS
XOUT
XIN
RESET
XTOUT
XTIN
TEST
STOP
SCKO
To Front Control
1101
FE-ST-VK-N
Key1
Key0
RotaryVolB
GND_B
RotaryVolA
Rot_Jog_B
Rot_Jog_A
LPS_LED
RC6
Stdby_LED
LPS_LED
Stdby_LED
AUX_SEL
DVD_5V
6103 1N4148
6100 1N4148
6101 1N4148
6119
1N4003
+5V6
To CD222 BE
1104
FMN
I2C_Clk_DVD
I2C_Data_DVD
DVD_IntReq
I2C_Clk2
I2C_Clk3
To AV Board
1105
A0
A1
A2
I2C_Clk1
I2C_Data
DVD_On
DVD_5V
-Vkk
F1
F2
1106
PowerDown
LPC
+5V6_ECO
MUX_DET
MUX_VU
TuRDS
TuStereo
TuClk
TuData
TuCE
TU_GND
TuRdsData
TuRdsClk
MUX_DET
VU_IN
Options
5100
2u2
6108
BAS316
+5V6_ECO
6113
1N4003
GND_B
For /22 Version only
7102
SAA6581T
57 Khz BANDPASS (8th ORDER)
POW SUPPL & RESET
CLOCKED COMP
RDS/RBDS DEM
OSC & CLK
SIGNAL QUALITY DET
TEST CTRL
MPX
SCOUT
CIN
TCON
MODE
VDDA
VDDD
VREF
SYNC
RDCL
RDDA
QUAL
VSSA
VSSD
OSCI
OSCO
5105
AT-51
For VU-meter version only
VU_IN
6105
BAS316
BAT54 COL
6118
5102
12MHz
5103
32.768KHz
32K768
7104
BC847B
7105
BC847B
7103
M24C02
E0
E1
E2
SCL
WC_
VCC
SDA
VSS
6106
1N4003
6107
BZX79-B5V6
3120
3121
7106
BC847B
7107
BC847B
7108
BC847B
7109
BC847B
Reset
Options
MoOscShift
DC Voltage measured in DISC Mode PLAY
* Provision in layout only
8239 210 94114 ..3502p4 dd wk0404

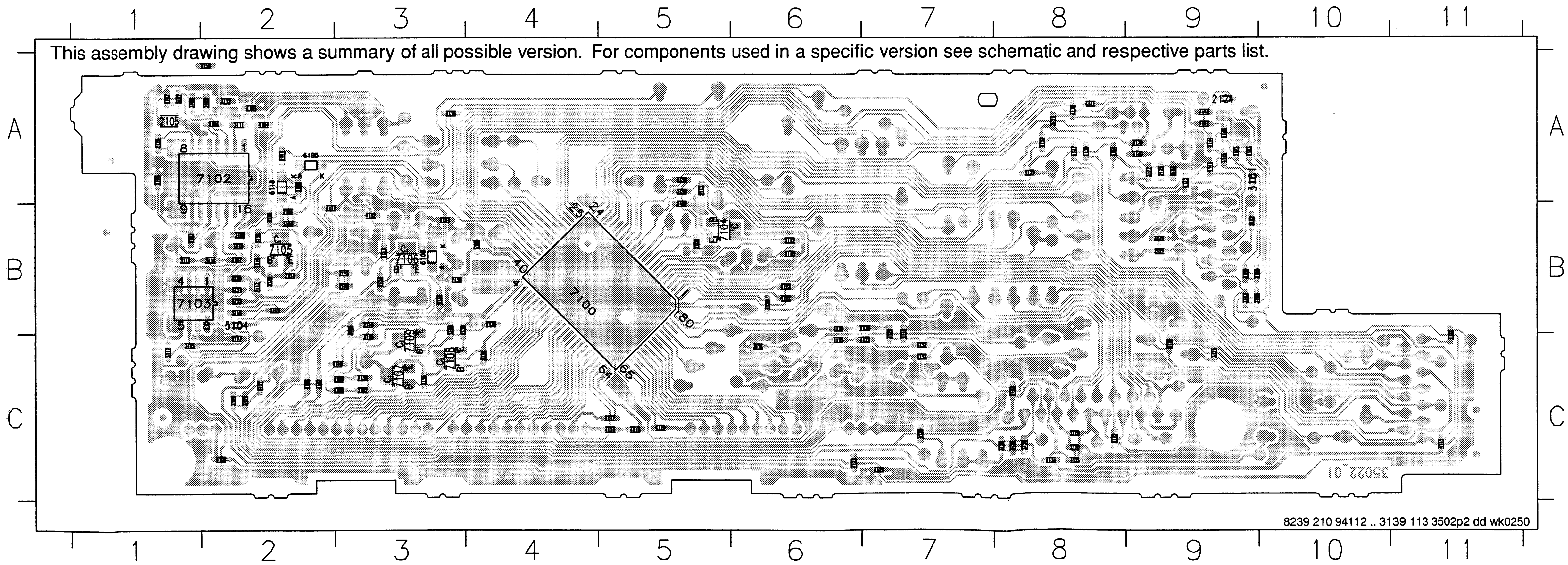
RONT DISPLAY PART - COMPONENT & CHIPS LAYOUT



This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

AV_2003/panels/3139_113_35022_01
8239_210_94112_01
1100
53
2129
2127
2131
2132
5105
9101
9100
6106
6113
9102
9103
9104
9105
9106
9107
9108
9109
9110
9111
9112
9113
9114
9115
9116
9117
6103
6100
6101
6107
2142
2126
5102
5103
3127
3126
9118
9119
9120
9121
9122
9123
9124
9125
1105
9126
9127
9128
9129
9130
9131
9132
9133
9134
9135
9136
1106
1104
9137
6119
9138
9139
1101
A
B
C
1
2
3
4
5
6
7
8
9
10
11
8239 210 94112 .. 3139 113 3502p2 dd wk0250

1100	A4
1101	A11
1104	C9
1105	A8
1106	B9
2126	A7
2127	A2
2129	A1
2131	B3
2132	B4
2142	A6
3126	A7
3127	A7
5102	B6
5103	B5
5105	B1
6100	A6
6101	A6
6103	A6
6106	B3
6107	A6
6113	B3
6119	A10
9100	B3
9101	B3
9102	C3
9103	C3
9104	C3
9105	C3
9106	C3
9107	C3
9108	C4
9109	C5
9110	C5
9111	B6
9112	C6
9113	C6
9114	B6
9115	B6
9116	B7
9117	C7
9118	A7
9119	B7
9120	B7
9121	B7
9122	B7
9123	B8
9124	B8
9125	B8
9126	A8
9127	A9
9128	A8
9129	B9
9130	B8
9131	B8
9132	B8
9133	B8
9134	C8
9135	B9
9136	C9
9137	C9
9138	A10
9139	A10



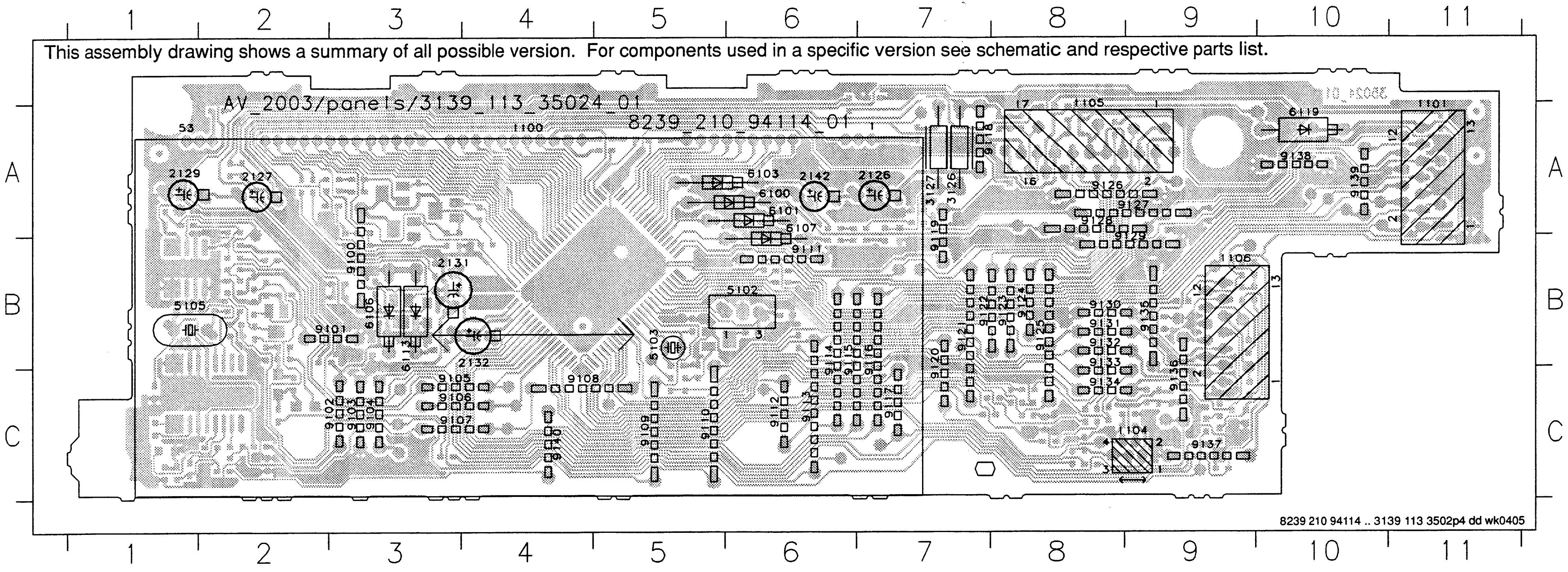
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

2105
2124
7102
8
1
9
16
6105
6118
7105
7106
6108
7103
4
1
5
8
5104
7100
25
24
40
41
1
80
64
65
7104
7107
7109
7108
3161
35022_01
A
B
C
1
2
3
4
5
6
7
8
9
10
11
8239 210 94112 .. 3139 113 3502p2 dd wk0250

2101	B2
2102	A2
2103	B1
2104	A2
2105	A1
2106	A1
2107	B2
2108	B5
2109	B5
2110	B6
2111	C2
2112	B6
2113	A5
2114	B2
2115	B3
2116	B3
2117	B2
2118	B2
2119	C8
2120	C8
2121	B9
2122	A9
2123	A9
2124	A9
2125	A9
2128	A1
2130	B3
2133	B3
2134	B3
2135	C3
2136	C3
2137	C4
2138	B3
2139	B4
2140	B3
2141	A2
3105	B2
3106	A2
3107	A1
3108	A1
3109	B2
3110	B2
3111	A2
3112	A2
3113	B1
3114	B2
3115	C1
3116	B2
3117	C1
3118	A5
3119	B2
3120	C8
3121	C2
3122	B2
3123	C8
3124	C2
3125	B2
3128	C8
3129	C2
3130	B2
3131	B2
3132	B2
3133	C7
3158	B9
3159	B9
3160	B9
3161	A9
3162	B9
3163	B9
3164	A8
3165	A9
3166	B3
3167	C3
3168	B3
3169	C3
3170	A9
3171	A8
3172	C8
3173	A8
3174	C9
3175	C9
3176	C6
3177	A9
4100	C2
4102	A1
4103	A2
4104	A2
4105	B2
4106	C2
4107	C2
4108	C3
4109	C3
4110	C3
4111	B2
4112	B3
4113	B3
4114	B3
4115	A3
4116	C5
4117	C5
4118	C5
4119	C5
4120	B6
4121	B6
4122	B6
4123	C6
4124	C7
4125	C6
4126	B6
4127	C7
4128	B7
4129	C7
4130	C7
4131	C7
4132	C7
4133	C8
4134	C8
4135	C8
4136	A5
4137	A8
4138	A8
4139	A8
4140	A9
4141	A8
4142	A9
4143	A9
4144	A9
4145	A9
4146	A9
4147	A9
4148	A9
4149	B9
4150	A2
4151	C11
4152	C11
4153	A8
5100	B4
5104	B2
6105	A2
6108	B3
6118	A2
7100	B4
7102	A2
7103	B1
7104	B5
7105	B2
7106	B3
7107	C3
7108	C3
7109	C3

FRONT DISPLAY PART - COMPONENT & CHIPS LAYOUT (pt 4 board)

1100	A4	2126	A7	2142	A6	5105	B1	6107	A6	9102	C3	9107	C3	9112	C6	9117	C7	9122	B7	9127	A9	9132	B8	9137	C9
1101	A11	2127	A2	3126	A7	6100	A6	6113	B3	9103	C3	9108	C4	9113	C6	9118	A7	9123	B8	9128	A8	9133	B8	9138	A10
1104	C9	2129	A1	3127	A7	6101	A6	6119	A10	9104	C3	9109	C5	9114	B6	9119	B7	9124	B8	9129	B9	9134	C8	9139	A10
1105	A8	2131	B3	5102	B6	6103	A6	9100	B3	9105	C3	9110	C5	9115	B6	9120	B7	9125	B8	9130	B8	9135	B9	9140	C4
1106	B9	2132	B4	5103	B5	6106	B3	9101	B3	9106	C3	9111	B6	9116	B7	9121	B7	9126	A8	9131	B8	9136	C9		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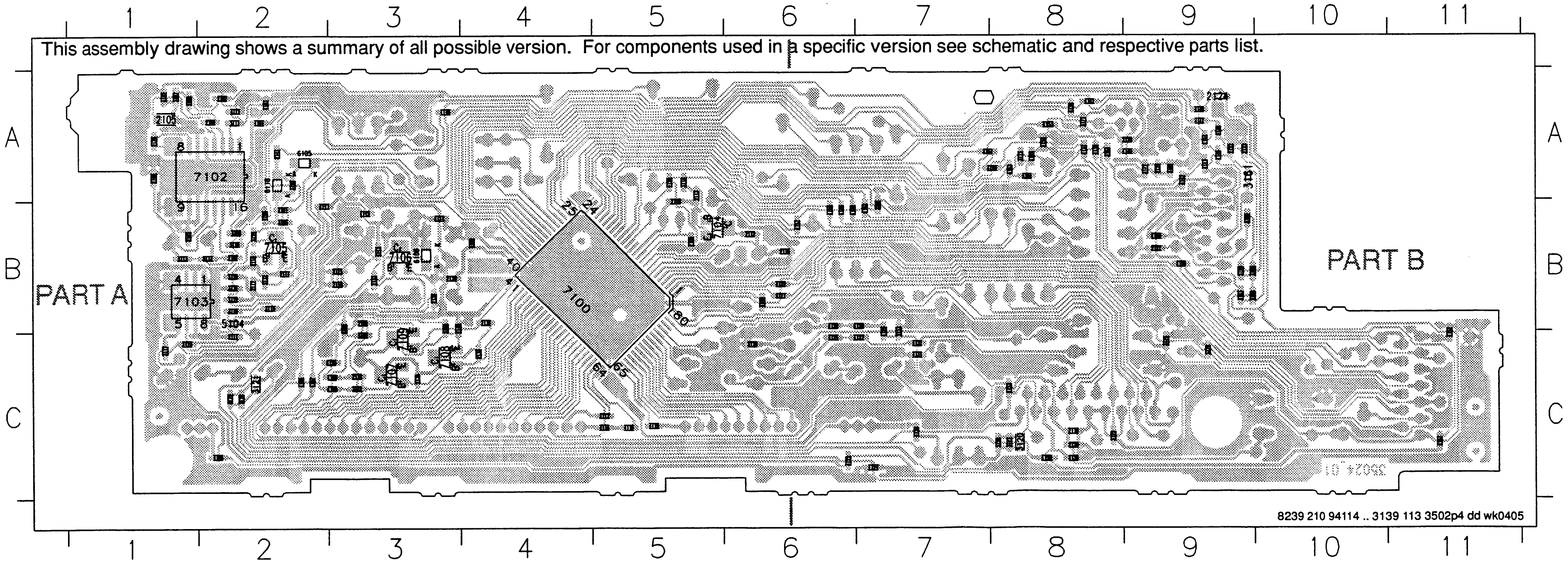
7
8
9
10
11
A
B
C
AV_2003/panels/3139_113_35024_01
8239_210_94114_01
53
1100
1101
1105
1106
1104
2129
2127
2126
2142
2131
2132
5102
5103
5105
6100
6101
6103
6106
6107
6113
6119
3126
3127
9100
9101
9105
9106
9107
9108
9111
9137

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

8239 210 94114 .. 3139 113 3502p4 dd wk0405

2101	B2	2112	B6	2123	A9	2139	B4	3113	B1	3124	C2	3161	A9	3172	C8	4105	B2	4116	C5	4127	C7	4138	A8	4149	B9	4160	B6	7102	A2
2102	A2	2113	A5	2124	A9	2140	B3	3114	B2	3125	B2	3162	B9	3173	A8	4106	C2	4117	C5	4128	B7	4139	A8	4150	B9	4162	B7	7103	B1
2103	B1	2114	B2	2125	A9	2141	A2	3115	C1	3128	C8	3163	B9	3174	C9	4107	C2	4118	C5	4129	C7	4140	A9	4151	C11	4163	A8	7104	B5
2104	A2	2115	B3	2128	A1	3105	B2	3116	B2	3129	C2	3164	A8	3175	C9	4108	C3	4119	C5	4130	C7	4141	A8	4152	C11	4164	A8	7105	B2
2105	A1	2116	B3	2130	B3	3106	A2	3117	C1	3130	B2	3165	A9	3176	C6	4109	C3	4120	B6	4131	C7	4142	A9	4153	A8	4165	A8	7106	B3
2106	A1	2117	B2	2133	B3	3107	A1	3118	A5	3131	B2	3166	B3	3177	A9	4110	C3	4121	B6	4132	C7	4143	A9	4154	A7	5100	B4	7107	C3
2107	B2	2118	B2	2134	B3	3108	A1	3119	B2	3132	B2	3167	C3	3201	B7	4111	B2	4122	B6	4133	C8	4144	A9	4155	A8	5104	B2	7108	C3
2108	B5	2119	C8	2135	C3	3109	B2	3120	C8	3133	C7	3168	B3	4100	C2	4112	B3	4123	C6	4134	C8	4145	A9	4156	A8	6105	A2	7109	C3
2109	B5	2120	C8	2136	C3	3110	B2	3121	C2	3158	B9	3169	C3	4102	A1	4113	B3	4124	C7	4135	C8	4146	A9	4157	B6	6108	B3		
2110	B6	2121	B9	2137	C4	3111	A2	3122	B2	3159	B9	3170	A9	4103	A2	4114	B3	4125	C6	4136	A5	4147	A9	4158	B6	6118	A2		
2111	C2	2122	A9	2138	B3	3112	A2	3123	C8	3160	B9	3171	A8	4104	A2	4115	A3	4126	B6	4137	A8	4148	A9	4159	B6	7100	B4		

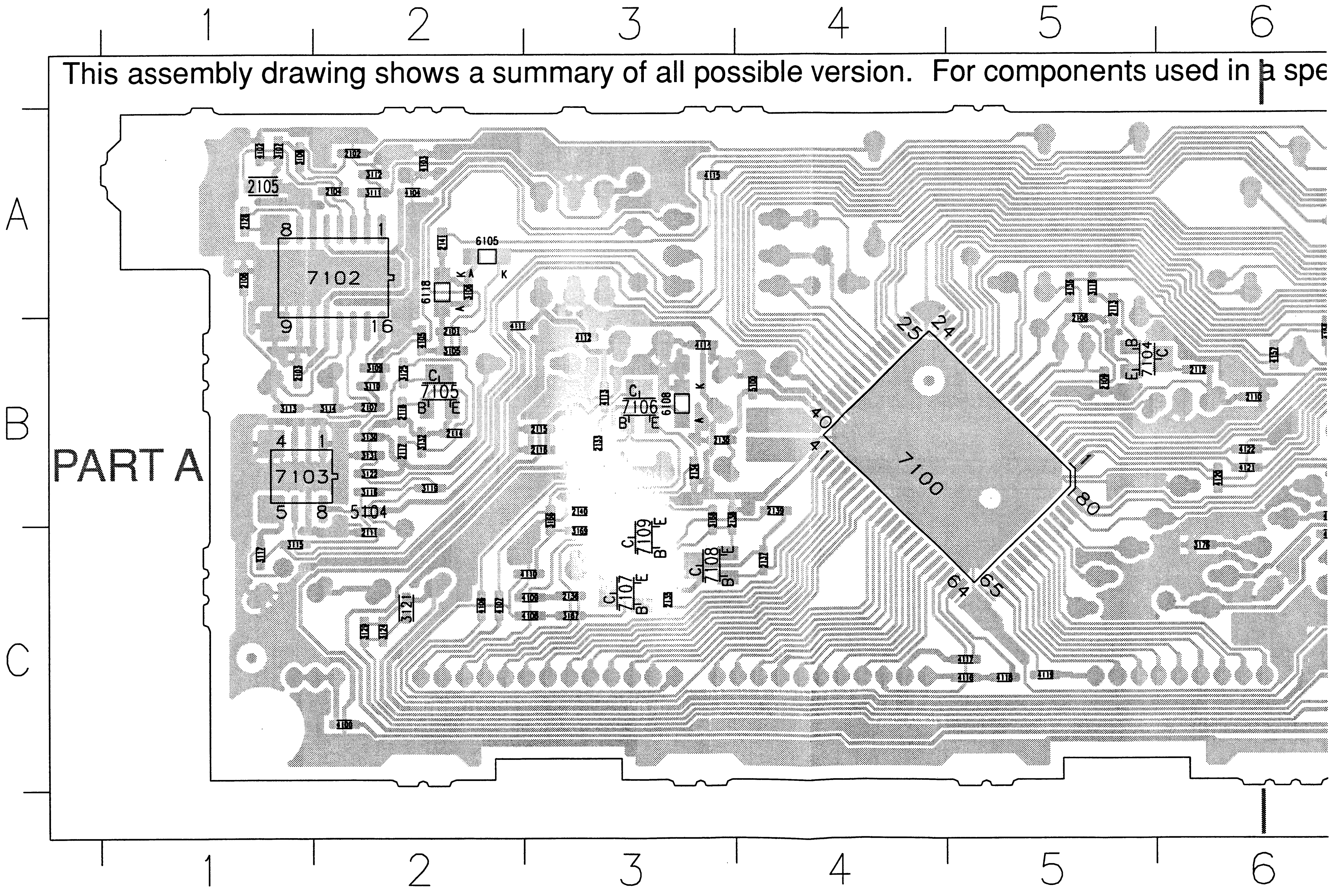

1
2
3
4
5
6
7
8
9
10
11
A
B
C
PART A
PART B
7100
7102
7103
2105
2124
3161
5104
6105
24
25
40
41
64
65
80
8
9
16
4
5

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

8239 210 94114 .. 3139 113 3502p4 dd wk0405

RONT DISPLAY PART - CHIPS LAYOUT (pt 4 board) PART A

2101	B2	2112	B6	2123	A9	2139	B4	3113	B1	3124	C2	3161	A9	3172	C8
2102	A2	2113	A5	2124	A9	2140	B3	3114	B2	3125	B2	3162	B9	3173	A8
2103	B1	2114	B2	2125	A9	2141	A2	3115	C1	3128	C8	3163	B9	3174	C9
2104	A2	2115	B3	2128	A1	3105	B2	3116	B2	3129	C2	3164	A8	3175	C9
2105	A1	2116	B3	2130	B3	3106	A2	3117	C1	3130	B2	3165	A9	3176	C6
2106	A1	2117	B2	2133	B3	3107	A1	3118	A5	3131	B2	3166	B3	3177	A9
2107	B2	2118	B2	2134	B3	3108	A1	3119	B2	3132	B2	3167	C3	3201	B7
2108	B5	2119	C8	2135	C3	3109	B2	3120	C8	3133	C7	3168	B3	4100	C2
2109	B5	2120	C8	2136	C3	3110	B2	3121	C2	3158	B9	3169	C3	4102	A1
2110	B6	2121	B9	2137	C4	3111	A2	3122	B2	3159	B9	3170	A9	4103	A2
2111	C2	2122	A9	2138	B3	3112	A2	3123	C8	3160	B9	3171	A8	4104	A2

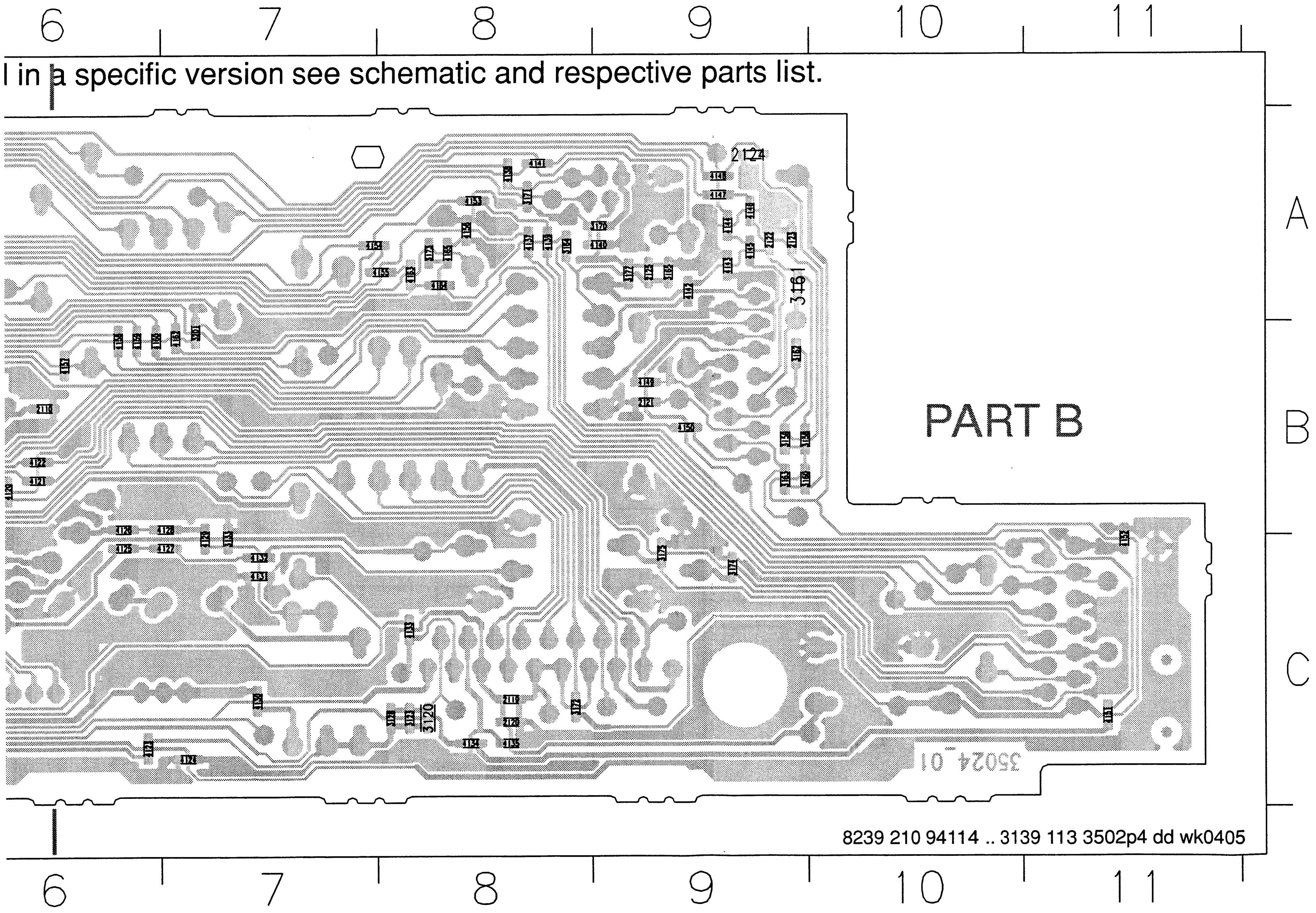


This assembly drawing shows a summary of all possible version. For components used in a spe

1
2
3
4
5
6
A
B
C
PART A
7102
8
1
9
16
2105
6105
6118
7105
7106
6108
7103
4
1
5
8
5104
7100
25
24
40
41
1
80
64
65
7104
7109
7108
7107
3121

FRONT DISPLAY PART - CHIPS LAYOUT (pt 4 board) PART B

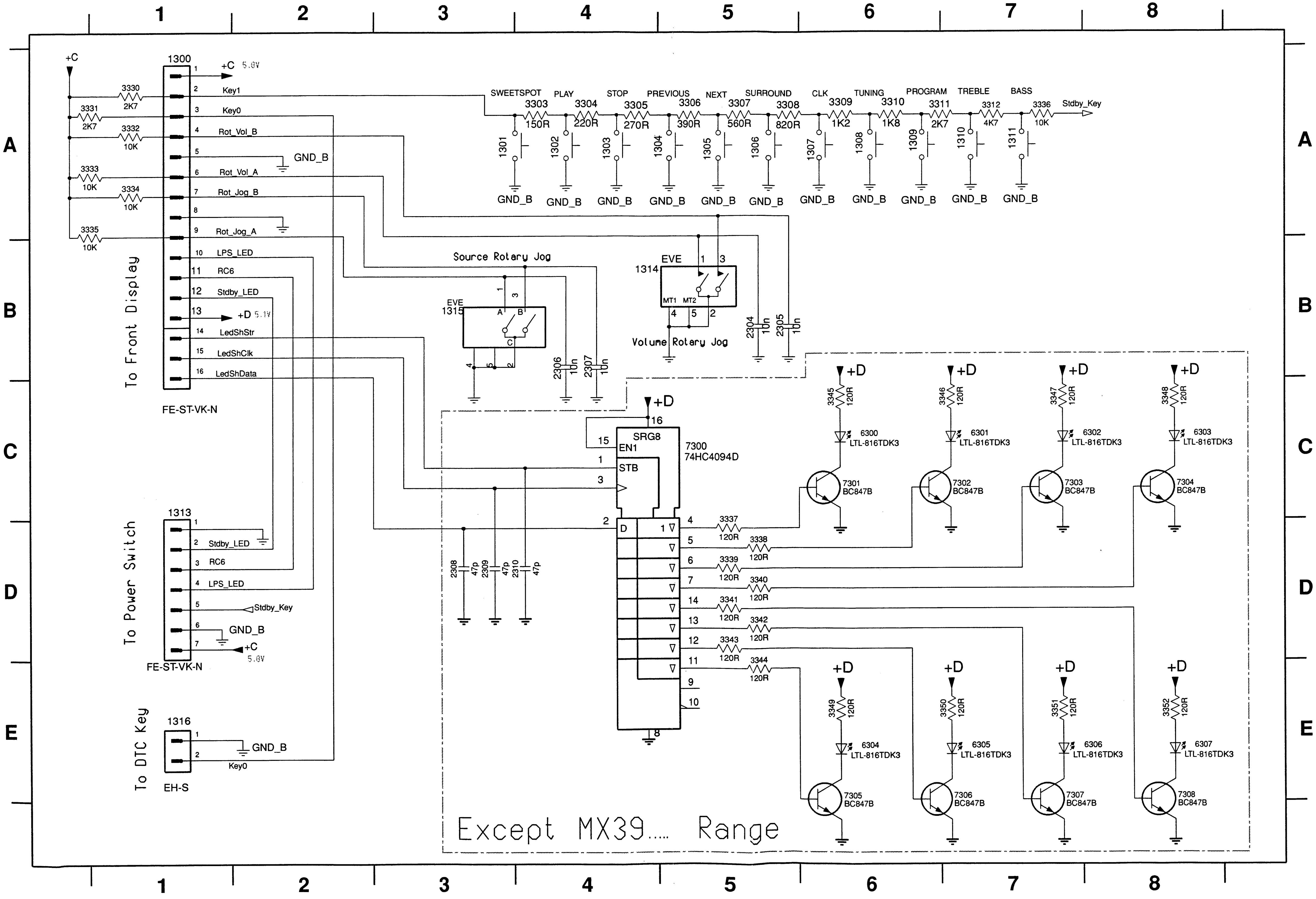
72	C8
73	A8
74	C9
75	C9
76	C6
77	A9
01	B7
00	C2
02	A1
03	A2
04	A2
4105	B2
4106	C2
4107	C2
4108	C3
4109	C3
4110	C3
4111	B2
4112	B3
4113	B3
4114	B3
4115	A3
4116	C5
4117	C5
4118	C5
4119	C5
4120	B6
4121	B6
4122	B6
4123	C6
4124	C7
4125	C6
4126	B6
4127	C7
4128	B7
4129	C7
4130	C7
4131	C7
4132	C7
4133	C8
4134	C8
4135	C8
4136	A5
4137	A8
4138	A8
4139	A8
4140	A9
4141	A8
4142	A9
4143	A9
4144	A9
4145	A9
4146	A9
4147	A9
4148	A9
4149	B9
4150	B9
4151	C11
4152	C11
4153	A8
4154	A7
4155	A8
4156	A8
4157	B6
4158	B6
4159	B6
4160	B6
4162	B7
4163	A8
4164	A8
4165	A8
5100	B4
5104	B2
6105	A2
6108	B3
6118	A2
7100	B4
7102	A2
7103	B1
7104	B5
7105	B2
7106	B3
7107	C3
7108	C3
7109	C3


l in a specific version see schematic and respective parts list.

6
7
8
9
10
11
A
B
C
2124
3161
3120
PART B
35024_01
8239 210 94114 .. 3139 113 3502p4 dd wk0405

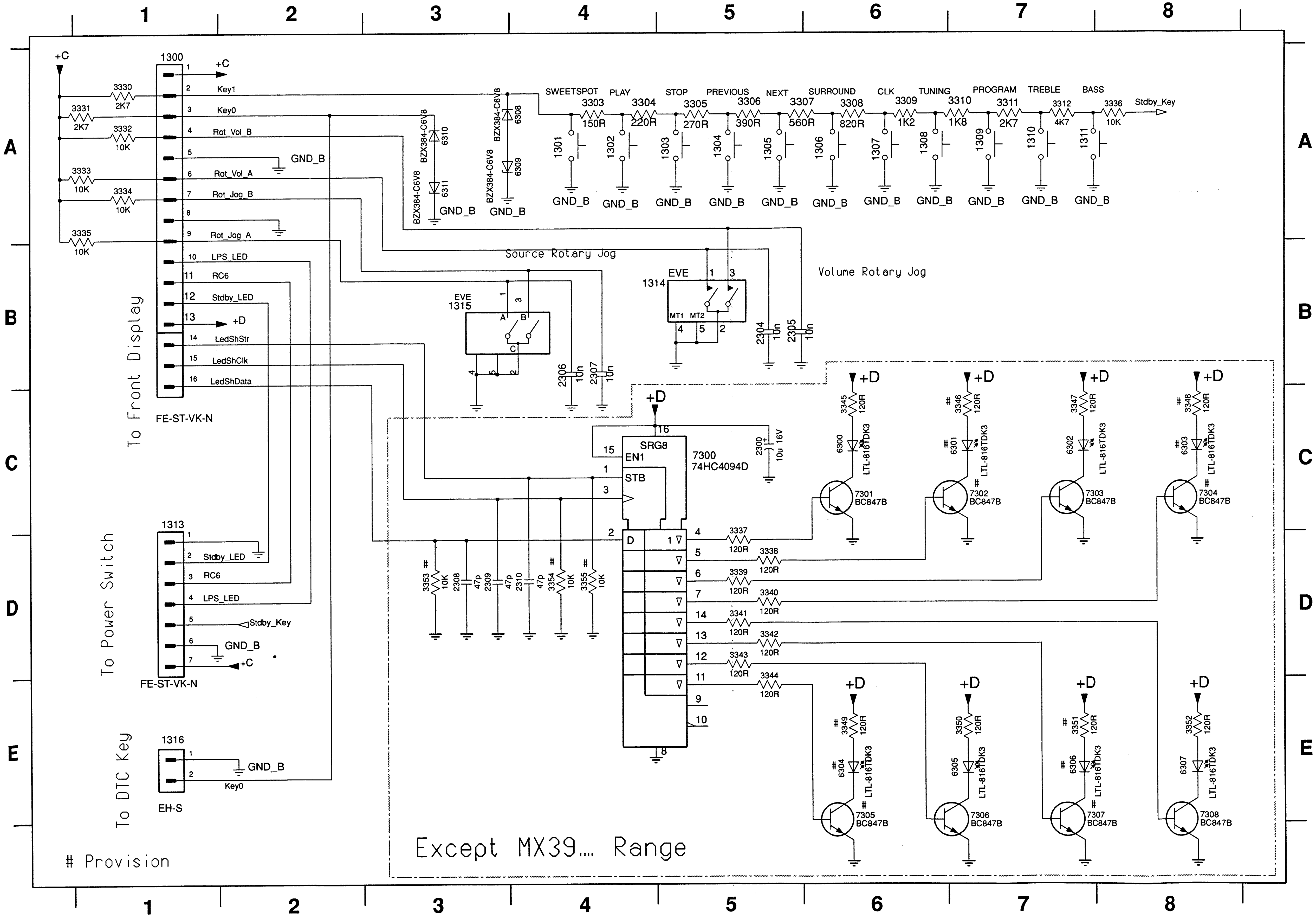
RONT CONTROL PART - CIRCUIT DIAGRAM

1300	A1
1301	A3
1302	A4
1303	A4
1304	A4
1305	A5
1306	A5
1307	A6
1308	A6
1309	A6
1310	A7
1311	A7
1313	C1
1314	B4
1315	B3
1316	E1
2304	B5
2305	B5
2306	B4
2307	B4
2308	D3
2309	D3
2310	D4
3303	A4
3304	A4
3305	A4
3306	A5
3307	A5
3308	A5
3309	A6
3310	A6
3311	A6
3312	A7
3330	A1
3331	A1
3332	A1
3333	A1
3334	A1
3335	A1
3336	A7
3337	D5
3338	D5
3339	D5
3340	D5
3341	D5
3342	D5
3343	D5
3344	E5
3345	C6
3346	C7
3347	C7
3348	C8
3349	E6
3350	E7
3351	E7
3352	E8
6300	C6
6301	C7
6302	C8
6303	C8
6304	E6
6305	E7
6306	E8
6307	E8
7300	C5
7301	C6
7302	C7
7303	C7
7304	C8
7305	E6
7306	E7
7307	E7
7308	E8

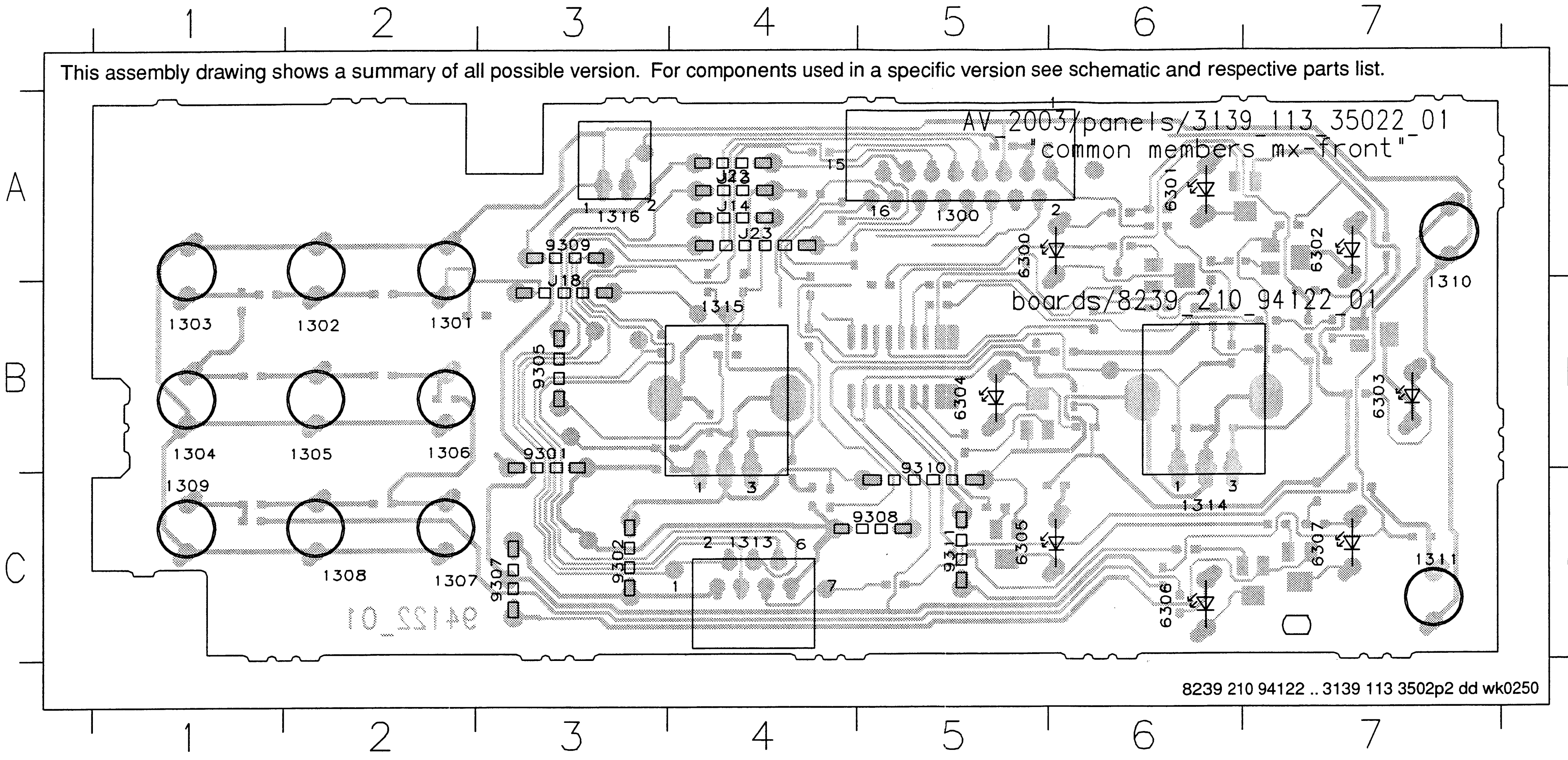

1 2 3 4 5 6 7 8
A B C D E
+C
1300
+C 5.0V
Key1
Key0
Rot_Vol_B
GND_B
Rot_Vol_A
Rot_Jog_B
Rot_Jog_A
LPS_LED
RC6
Stdby_LED
+D 5.1V
LedShStr
LedShClk
LedShData
To Front Display
FE-ST-VK-N
3330 2K7
3331 2K7
3332 10K
3333 10K
3334 10K
3335 10K
SWEETSPOT
PLAY
STOP
PREVIOUS
NEXT
SURROUND
CLK
TUNING
PROGRAM
TREBLE
BASS
3303 150R
3304 220R
3305 270R
3306 390R
3307 560R
3308 820R
3309 1K2
3310 1K8
3311 2K7
3312 4K7
3336 10K
Stdby_Key
1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311
GND_B
Source Rotary Jog
EVE
1315
A B C
EVE
1314
MT1 MT2
Volume Rotary Jog
2304 10n
2305 10n
2306 10n
2307 10n
+D
SRG8
EN1
STB
7300
74HC4094D
D
2308 47p
2309 47p
2310 47p
3337 120R
3338 120R
3339 120R
3340 120R
3341 120R
3342 120R
3343 120R
3344 120R
3345 120R
3346 120R
3347 120R
3348 120R
3349 120R
3350 120R
3351 120R
3352 120R
6300 LTL-816TDK3
6301 LTL-816TDK3
6302 LTL-816TDK3
6303 LTL-816TDK3
6304 LTL-816TDK3
6305 LTL-816TDK3
6306 LTL-816TDK3
6307 LTL-816TDK3
7301 BC847B
7302 BC847B
7303 BC847B
7304 BC847B
7305 BC847B
7306 BC847B
7307 BC847B
7308 BC847B
1313
Stdby_LED
RC6
LPS_LED
Stdby_Key
GND_B
+C 5.0V
To Power Switch
FE-ST-VK-N
1316
GND_B
Key0
To DTC Key
EH-S
Except MX39..... Range

FRONT CONTROL PART - CIRCUIT DIAGRAM (For pt 4 board)

1300 A1	1304 A5	1308 A6	1313 C1	2300 C5	2307 B4	3303 A4	3307 A5	3311 A7	3332 A1	3336 A8	3340 D5	3344 E5	3348 C8	3352 E8	6300 C6	6304 E6	6308 A4	7300 C5	7304 C8	7308 E8
1301 A4	1305 A5	1309 A7	1314 B4	2304 B5	2308 D3	3304 A4	3308 A6	3312 A7	3333 A1	3337 D5	3341 D5	3345 C6	3349 E6	3353 D3	6301 C7	6305 E7	6309 A4	7301 C6	7305 E6	
1302 A4	1306 A6	1310 A7	1315 B3	2305 B5	2309 D3	3305 A5	3309 A6	3330 A1	3334 A1	3338 D5	3342 D5	3346 C7	3350 E7	3354 D4	6302 C7	6306 E7	6310 A3	7302 C7	7306 E7	
1303 A5	1307 A6	1311 A7	1316 E1	2306 B4	2310 D4	3306 A5	3310 A7	3331 A1	3335 A1	3339 D5	3343 D5	3347 C7	3351 E7	3355 D4	6303 C8	6307 E8	6311 A3	7303 C7	7307 E7	


1
2
3
4
5
6
7
8
A
B
C
D
E
+C
1300
+C
Key1
Key0
Rot_Vol_B
GND_B
Rot_Vol_A
Rot_Jog_B
Rot_Jog_A
LPS_LED
RC6
Stdby_LED
+D
LedShStr
LedShClk
LedShData
FE-ST-VK-N
To Front Display
3330 2K7
3331 2K7
3332 10K
3333 10K
3334 10K
3335 10K
BZX384-C6V8 6310
BZX384-C6V8 6311
BZX384-C6V8 6308
BZX384-C6V8 6309
SWEETSPOT
PLAY
STOP
PREVIOUS
NEXT
SURROUND
CLK
TUNING
PROGRAM
TREBLE
BASS
3303 150R
3304 220R
3305 270R
3306 390R
3307 560R
3308 820R
3309 1K2
3310 1K8
3311 2K7
3312 4K7
3336 10K
Stdby_Key
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
Source Rotary Jog
Volume Rotary Jog
EVE 1315
A B C
EVE 1314
MT1 MT2
2306 10n
2307 10n
2304 10n
2305 10n
SRG8
EN1
STB
D
7300
74HC4094D
2300 10u 16V
# 3353 10K
2308 47p
2309 47p
2310 47p
# 3354 10K
# 3355 10K
3337 120R
3338 120R
3339 120R
3340 120R
3341 120R
3342 120R
3343 120R
3344 120R
3345 120R
# 3346 120R
3347 120R
# 3348 120R
# 3349 120R
3350 120R
# 3351 120R
3352 120R
6300 LTL-816TDK3
# 6301 LTL-816TDK3
6302 LTL-816TDK3
# 6303 LTL-816TDK3
# 6304 LTL-816TDK3
6305 LTL-816TDK3
# 6306 LTL-816TDK3
6307 LTL-816TDK3
7301 BC847B
# 7302 BC847B
7303 BC847B
# 7304 BC847B
# 7305 BC847B
7306 BC847B
# 7307 BC847B
7308 BC847B
1313
Stdby_LED
RC6
LPS_LED
Stdby_Key
GND_B
+C
FE-ST-VK-N
To Power Switch
1316
GND_B
Key0
EH-S
To DTC Key
Except MX39.... Range
# Provision

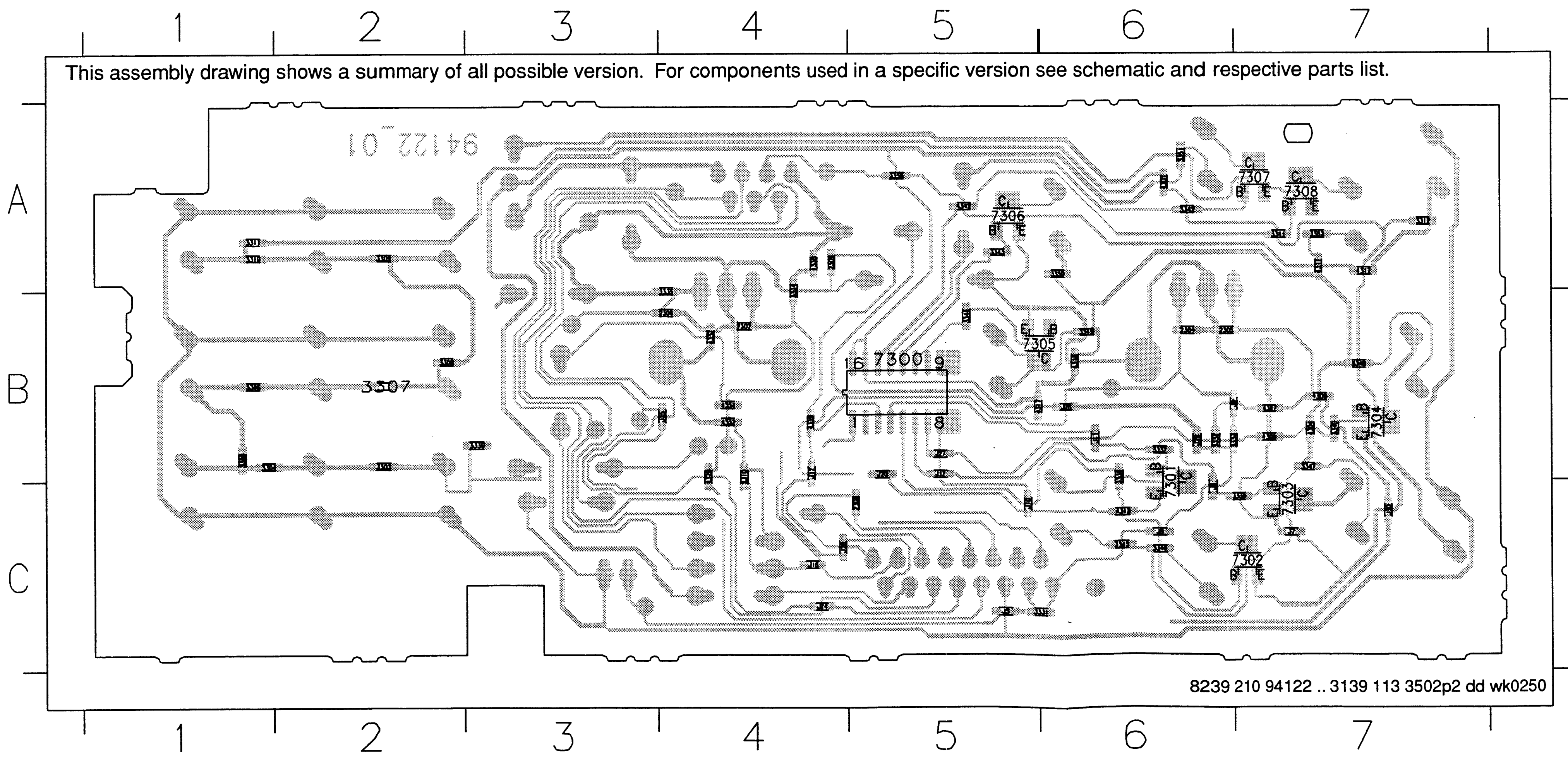
FRONT CONTROL PART - COMPONENT & CHIPS LAYOUT


1
2
3
4
5
6
7
A
B
C
AV_2003/panels/3139_113_35022_01
"common members_mx-front"
boards/8239_210_94122_01
1316
J22
J13
J14
J23
9309
J18
15
16
1300
2
6300
6301
6302
1310
1303
1302
1301
1315
9305
1304
1305
1306
9301
1309
6304
9310
1314
6303
9308
1313
9302
9307
9311
6305
6306
6307
1311
1308
1307
94122_01

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

8239 210 94122 .. 3139 113 3502p2 dd wk0250

J13	A4
J14	A4
J18	B3
J22	A4
J23	A4
1300	A5
1301	B2
1302	B2
1303	B1
1304	B1
1305	B2
1306	B2
1307	C2
1308	C2
1309	C1
1310	B7
1311	C7
1313	C4
1314	C6
1315	B4
1316	A3
6300	A5
6301	A6
6302	A7
6303	B7
6304	B5
6305	C5
6306	C6
6307	C7
9301	B3
9302	C3
9305	B3
9307	C3
9308	C5
9309	A3
9310	B5
9311	C5


1
2
3
4
5
6
7
A
B
C
94122_01
7307
7308
7306
7305
16
7300
9
1
8
3307
7301
7303
7304
7302
C
B
E

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

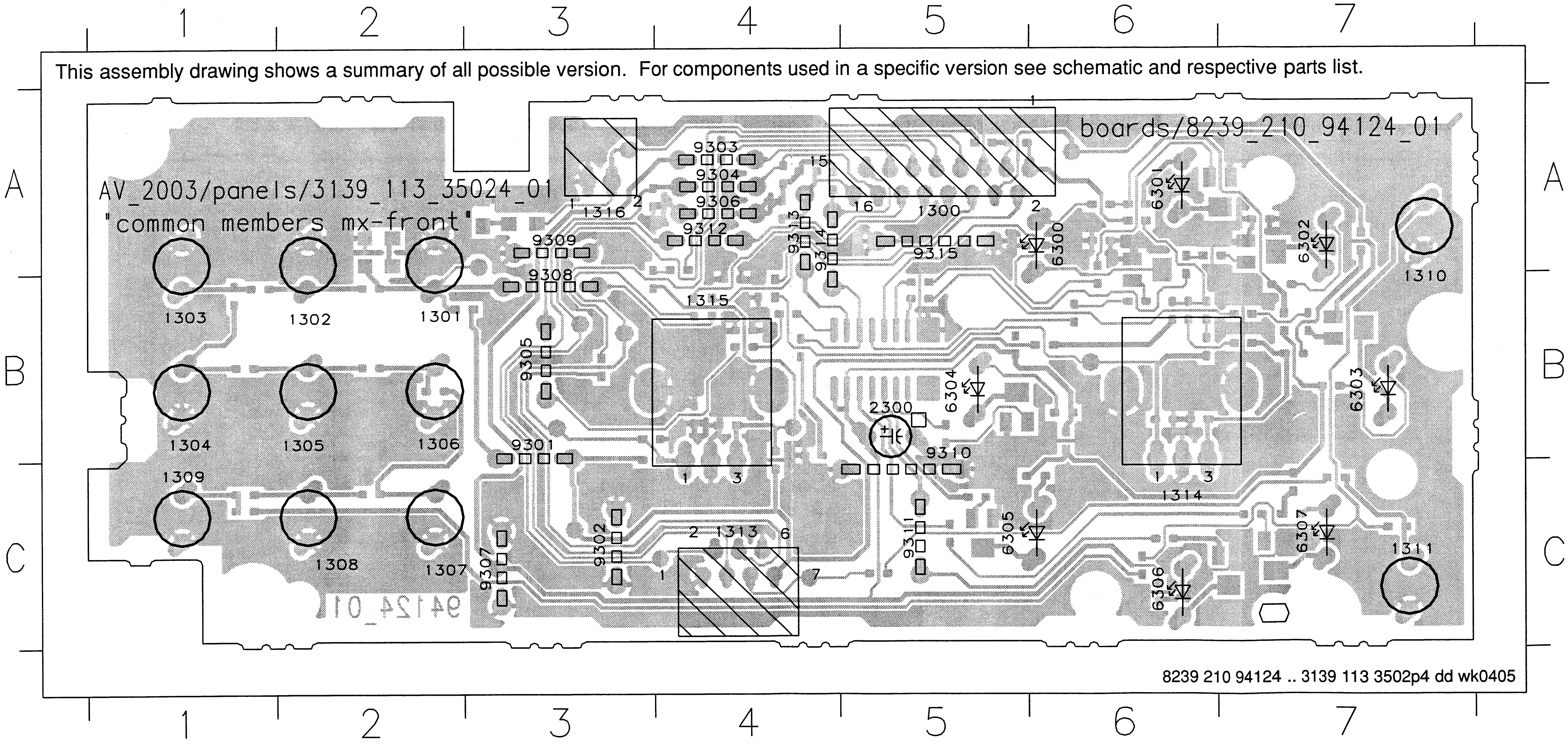
8239 210 94122 .. 3139 113 3502p2 dd wk0250

J3	C5
J6	C6
J7	C7
J8	C6
J9	B6
J10	C5
J11	B6
J12	B5
J16	C4
J17	B4
J20	B5
J24	C4
J25	B4
J26	C4
J27	B5
J28	B6
J29	B6
J30	C7
2304	B6
2305	B6
2306	B4
2307	B4
2308	C5
2309	A4
2310	B4
3303	B2
3304	B1
3305	B1
3306	B1
3307	B2
3308	B2
3309	A2
3310	A1
3311	A1
3312	A7
3330	B3
3331	C6
3332	B6
3333	B6
3334	A4
3335	B4
3336	A5
3337	B6
3338	B6
3339	C7
3340	B7
3341	A7
3342	A6
3343	A5
3344	B5
3345	C6
3346	C6
3347	B7
3348	B7
3349	B6
3350	A6
3351	A6
3352	A7

4301	A6
4304	B7
4306	B7
4307	B7
4309	B7
4311	A7
4312	A7
4317	B5
4318	B6
4329	B4
4332	B4
4334	B4
4337	B4
4338	A4
4339	B4
4342	A5
4343	C6
7300	B5
7301	C6
7302	C7
7303	C7
7304	B7
7305	B5
7306	A5
7307	A7
7308	A7

FRONT CONTROL PART - COMPONENT LAYOUT (For pt 4 board)

1300	A5
1301	B2
1302	B2
1303	B1
1304	B1
1305	B2
1306	B2
1307	C2
1308	C2
1309	C1
1310	B7
1311	C7
1313	C4
1314	C6
1315	B4
1316	A3
2300	B5
6300	A6
6301	A6
6302	A7
6303	B7
6304	B5
6305	C5
6306	C6
6307	C7
9301	B3
9302	C3
9303	A4
9304	A4
9305	B3
9306	A4
9307	C3
9308	B3
9309	A3
9310	B5
9311	C5
9312	A4
9313	A4
9314	A4
9315	A5

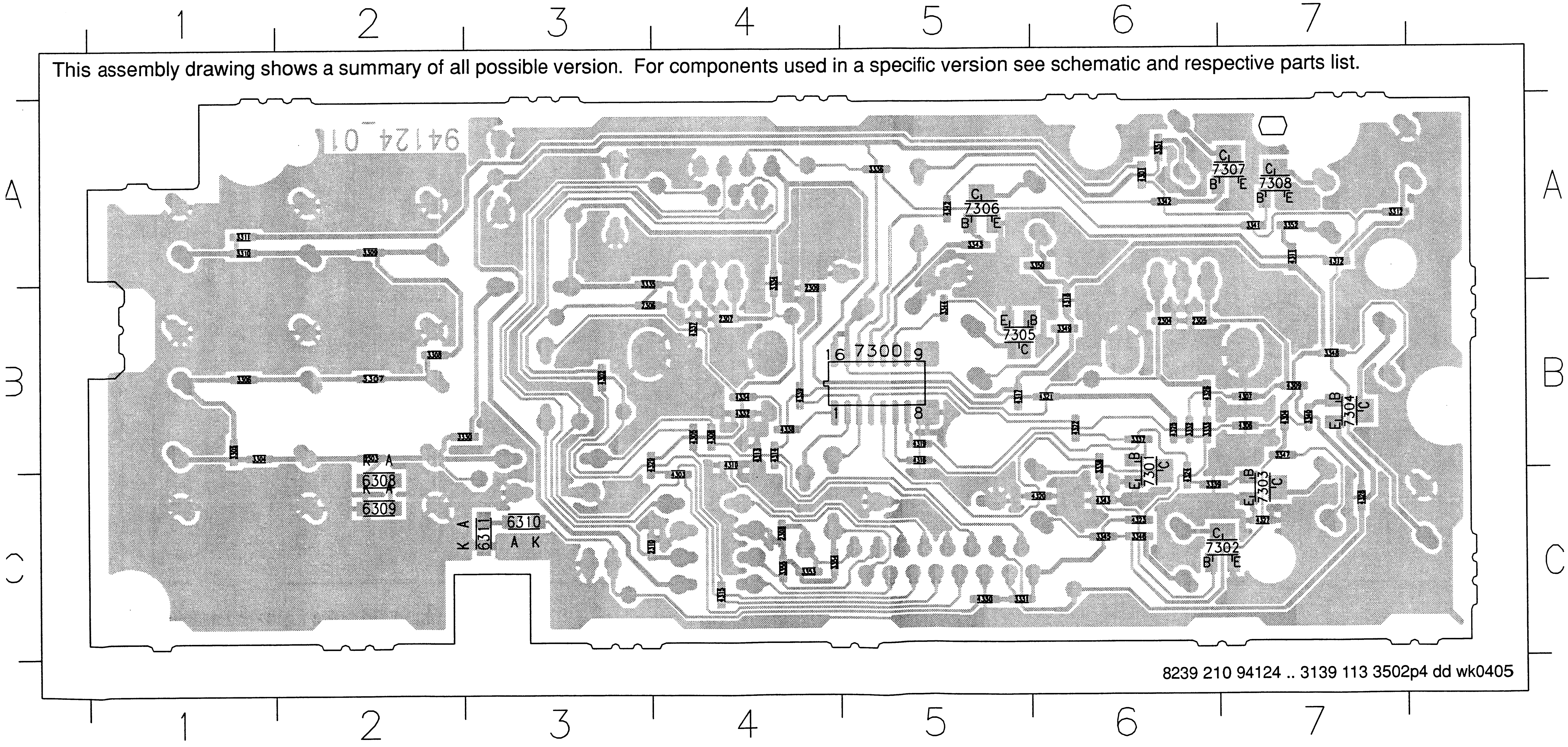

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

1
2
3
4
5
6
7
A
B
C
boards/8239_210_94124_01
AV_2003/panels/3139_113_35024_01
"common members mx-front"
1300
1301
1302
1303
1304
1305
1306
1307
1308
1309
1310
1311
1313
1314
1315
1316
2300
6300
6301
6302
6303
6304
6305
6306
6307
9301
9302
9303
9304
9305
9306
9307
9308
9309
9310
9311
9312
9313
9314
9315
94124_01

8239 210 94124 .. 3139 113 3502p4 dd wk0405

RONT CONTROL PART - CHIPS LAYOUT (For pt 4 board)

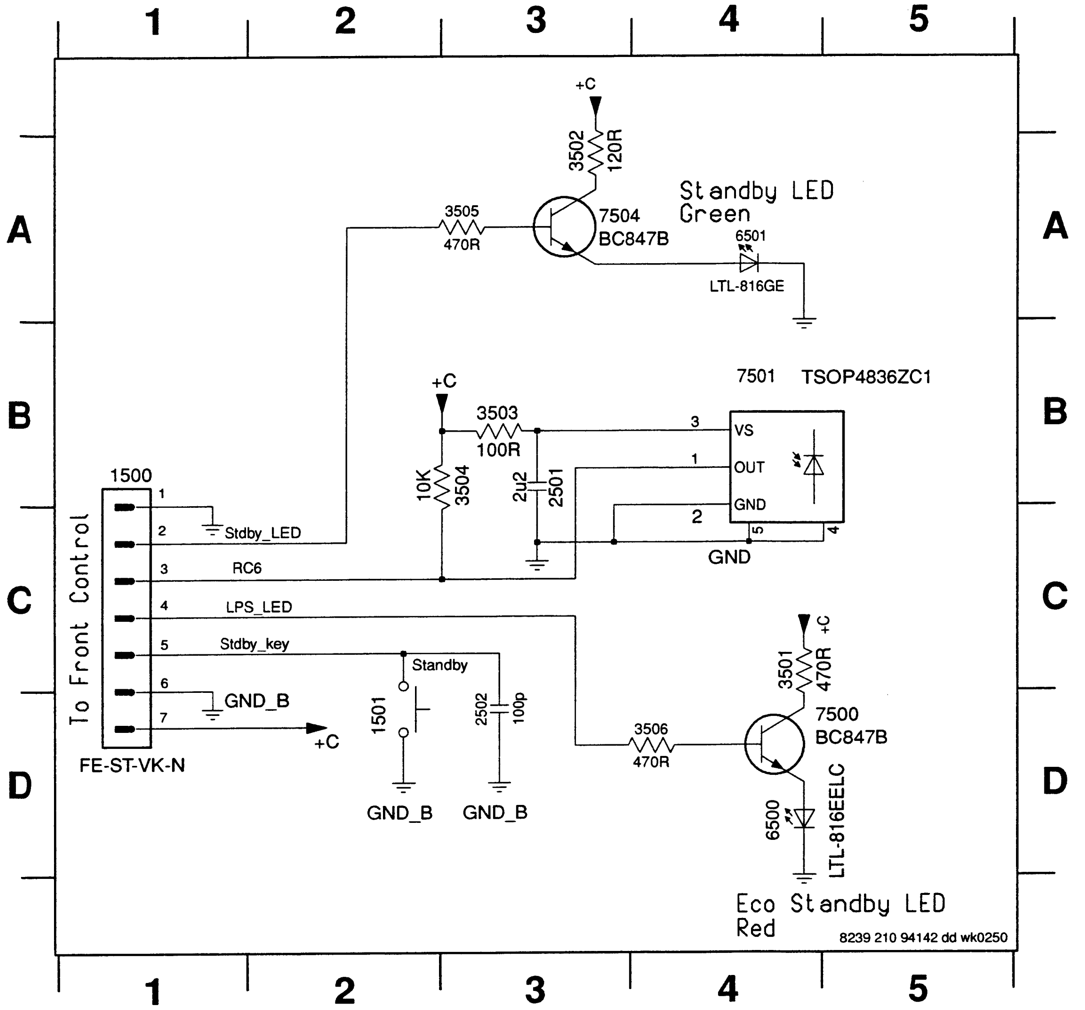
2304	B6
2305	B6
2306	B3
2307	B4
2308	C4
2309	B4
2310	C3
3303	B2
3304	B1
3305	B1
3306	B1
3307	B2
3308	B2
3309	A2
3310	A1
3311	A1
3312	A7
3330	B3
3331	C5
3332	B6
3333	B6
3334	A4
3335	B3
3336	A5
3337	B6
3338	B6
3339	C6
3340	B7
3341	A7
3342	A6
3343	A5
3344	B5
3345	C6
3346	C6
3347	B7
3348	B7
3349	B6
3350	A6
3351	A6
3352	A7
3353	C4
3354	C4
3355	C4
4301	A6
4302	B3
4303	C4
4304	B7
4305	B4
4306	B7
4307	B7
4308	B4
4309	B7
4310	B4
4311	A7
4312	A7
4313	B4
4314	B4
4315	C4
4316	B5
4317	B5
4318	B6
4319	B5
4320	C6
4321	B6
4322	B6
4323	C6
4324	C6
4325	B6
4326	B6
4327	C7
4328	C7
4329	B3
4330	C5
4332	B4
4334	B4
4337	B4
4338	B4
4339	B4
4342	A5
4343	C6
6308	C2
6309	C2
6310	C3
6311	C3
7300	B5
7301	C6
7302	C7
7303	C7
7304	B7
7305	B5
7306	A5
7307	A7
7308	A7


1
2
3
4
5
6
7
A
B
C
94124_01
7300
16
9
1
8
7301
7302
7303
7304
7305
7306
7307
7308
6308
6309
6310
6311
K
A
3307
3310
3311
3330

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

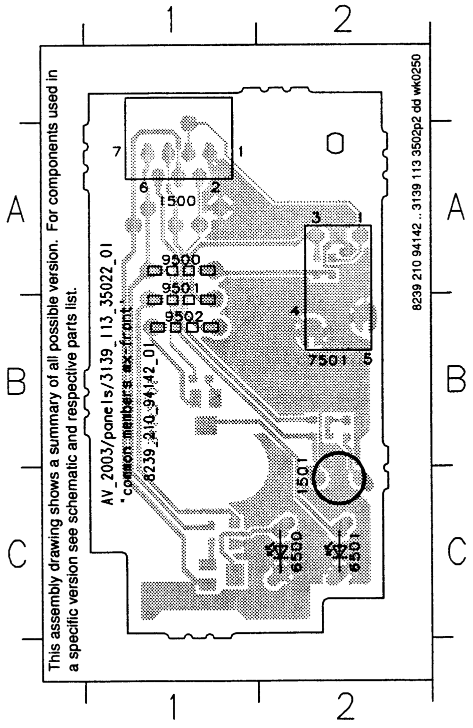
8239 210 94124 .. 3139 113 3502p4 dd wk0405

POWER SWITCH PART - CIRCUIT DIAGRAM

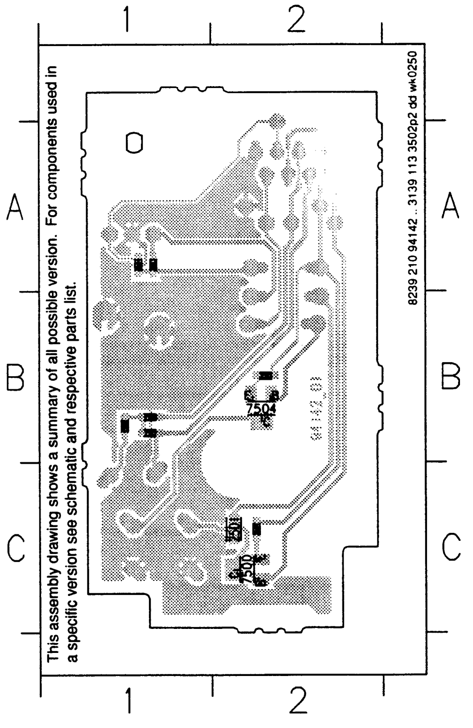

1
2
3
4
5
A
B
C
D
+C
3502
120R
3505
470R
7504
BC847B
Standby LED
Green
6501
LTL-816GE
7501
TSOP4836ZC1
+C
3503
100R
VS
OUT
GND
10K
3504
2u2
2501
GND
1500
Stdby_LED
RC6
LPS_LED
Stdby_key
Standby
GND_B
+C
To Front Control
FE-ST-VK-N
1501
2502
100p
GND_B
GND_B
3506
470R
3501
470R
+C
7500
BC847B
6500
LTL-816EELC
Eco Standby LED
Red
8239 210 94142 dd wk0250

1500	B1
1501	D2
2501	B3
2502	D3
3501	C4
3502	A3
3503	B3
3504	B3
3505	A3
3506	D4
6500	D4
6501	A4
7500	D4
7501	B5
7504	A3
T500	B1
T501	C1
T502	C1
T503	C1
T504	C1
T505	D1

POWER SWITCH PART - COMPONENT & CHIP LAYOUTS


1
2
A
B
C
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
AV_2003/panels/3139_113_35022_01
"common_members_mx-front"
8239_210_94142_01
1500
9500
9501
9502
7501
1501
6500
6501
8239 210 94142.. 3139 113 3502p2 dd wk0250

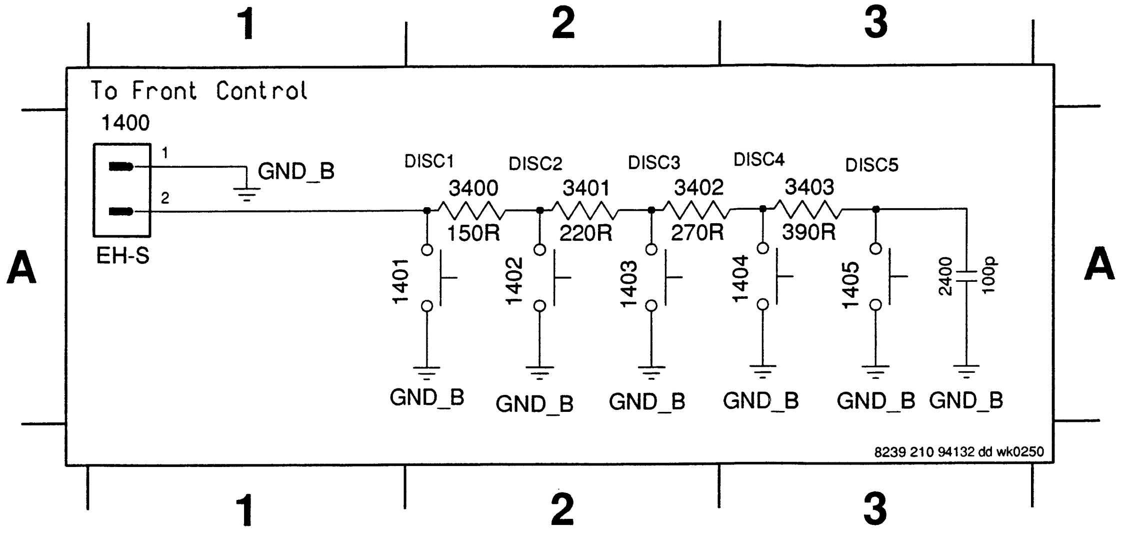
1500	A1
1501	C2
6500	C2
6501	C2
7501	B2
9500	A1
9501	A1
9502	B1


1
2
A
B
C
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
7504
7500
8239 210 94142.. 3139 113 3502p2 dd wk0250

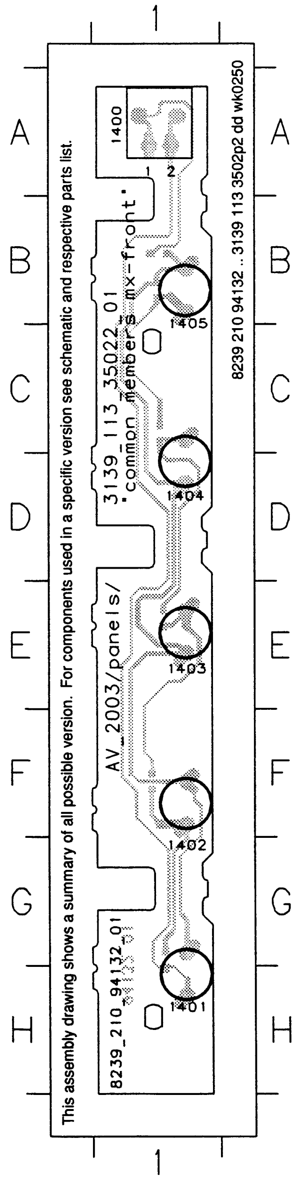
2501	C2
2502	B1
3501	C2
3502	B2
3503	A1
3504	A1
4500	B1
4501	B1
7500	C2
7504	B2

DTC KEY PART - CIRCUIT DIAGRAM

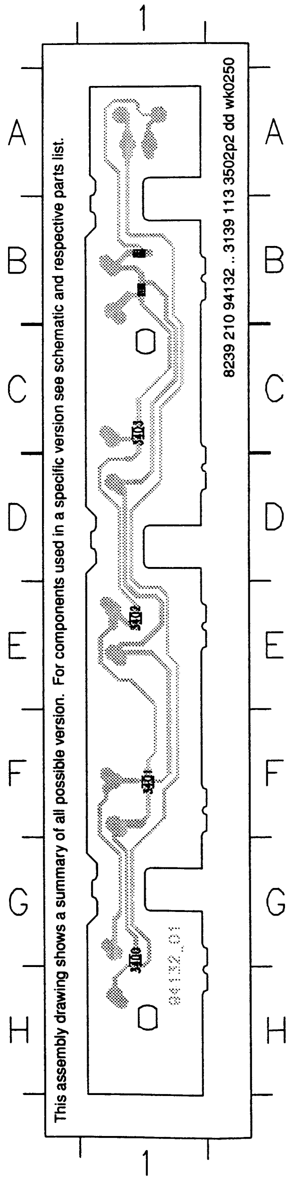
1400	A1
1401	A1
1402	A2
1403	A2
1404	A3
1405	A3
2400	A3
3400	A2
3401	A2
3402	A2
3403	A3


1
2
3
A
To Front Control
1400
EH-S
GND_B
DISC1
DISC2
DISC3
DISC4
DISC5
3400
150R
3401
220R
3402
270R
3403
390R
1401
1402
1403
1404
1405
2400
100p
GND_B
GND_B
GND_B
GND_B
GND_B
GND_B
8239 210 94132 dd wk0250

DTC KEY PART - COMPONENT & CHIP LAYOUTS


1
A
B
C
D
E
F
G
H
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
1400
1405
1404
1403
1402
1401
3139_113_35022_01
"common_members_mx-front"
AV_2003/panels/
8239_210_94132_01
8239 210 94132.. 3139 113 3502p2 dd wk0250

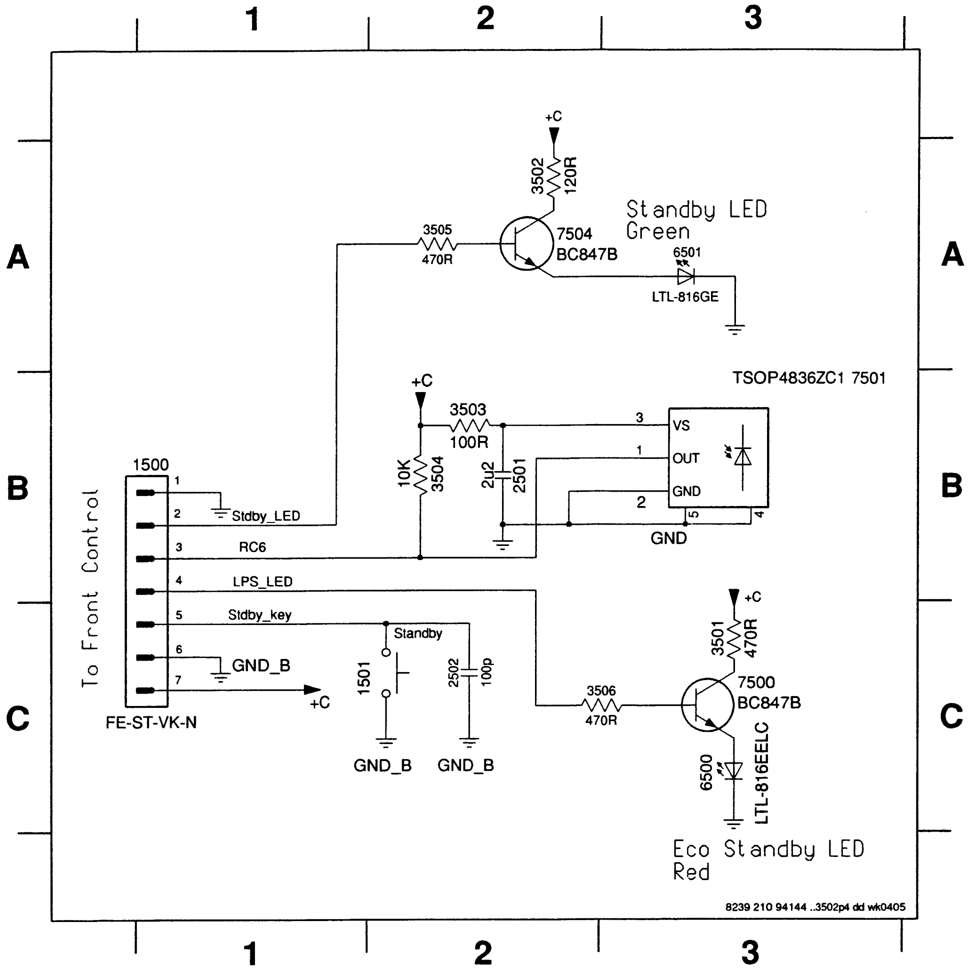
1400	A1
1401	H1
1402	G1
1403	E1
1404	D1
1405	B1


1
A
B
C
D
E
F
G
H
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
8239 210 94132.. 3139 113 3502p2 dd wk0250

2400	B1
3400	G1
3401	F1
3402	E1
3403	C1
4400	B1

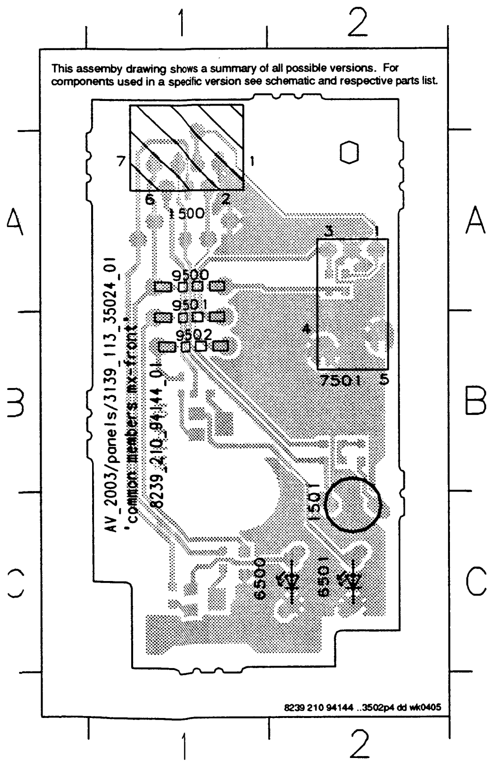
POWER SWITCH PART - CIRCUIT DIAGRAM (For pt 4 board)

1500 B1	2501 B2	3501 C3	3503 B2	3505 A2	6500 C3	7500 C3	7504 A2
1501 C1	2502 C2	3502 A2	3504 B2	3506 C3	6501 A3	7501 B3	



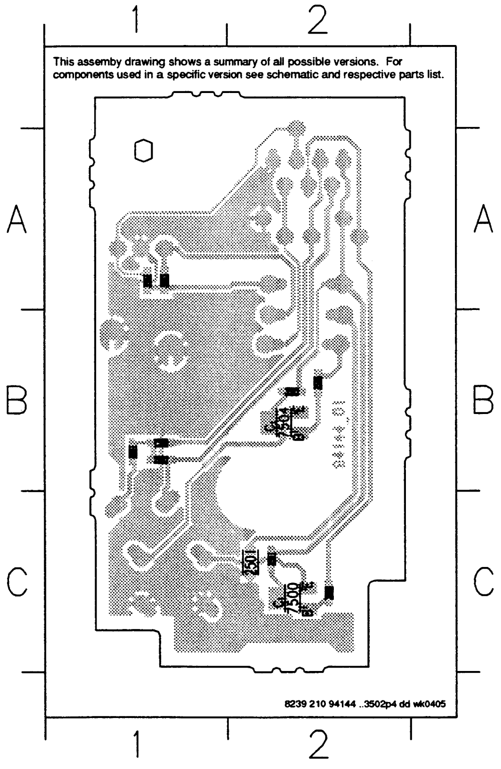
1
2
3
A
B
C
+C
3502
120R
3505
470R
7504
BC847B
Standby LED
Green
6501
LTL-816GE
TSOP4836ZC1 7501
+C
3503
100R
10K
3504
2u2
2501
VS
OUT
GND
3
1
2
5
4
GND
1500
To Front Control
Stdby_LED
RC6
LPS_LED
Stdby_key
GND_B
+C
Standby
1501
2502
100p
GND_B
GND_B
FE-ST-VK-N
+C
3501
470R
3506
470R
7500
BC847B
6500
LTL-816EELC
Eco Standby LED
Red
8239 210 94144 ..3502p4 dd wk0405

POWER SWITCH PART - COMPONENT & CHIP LAYOUTS (pt 4 board)



1
2
A
B
C
This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
1500
9500
9501
9502
7501
1501
6500
6501
AV_2003/panels/3139_113_35024_01
'common members mx-front'
8239_210_94144_01
8239 210 94144 ..3502p4 dd wk0405

1500	A1
1501	C2
6500	C1
6501	C2
7501	B2
9500	A1
9501	A1
9502	B1

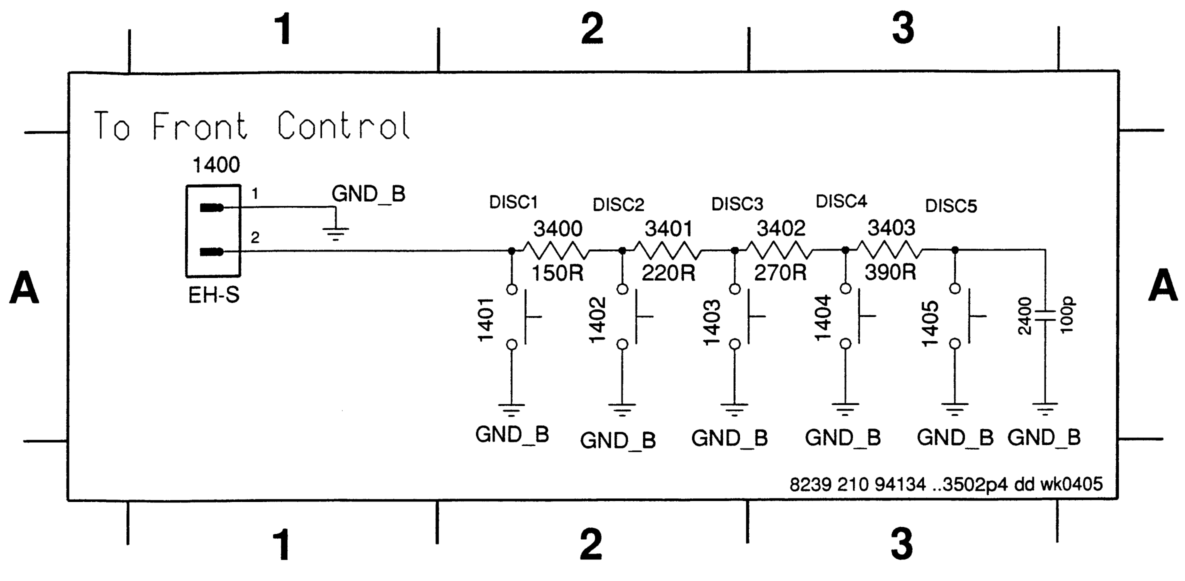


1
2
A
B
C
This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
94144_01
2501
8239 210 94144 ..3502p4 dd wk0405

2501	C2
2502	B1
3501	C2
3502	B2
3503	A1
3504	A1
3505	B2
3506	C2
4500	B1
4501	B1
7500	C2
7504	B2

DTC KEY PART - CIRCUIT DIAGRAM (For pt 4 board)

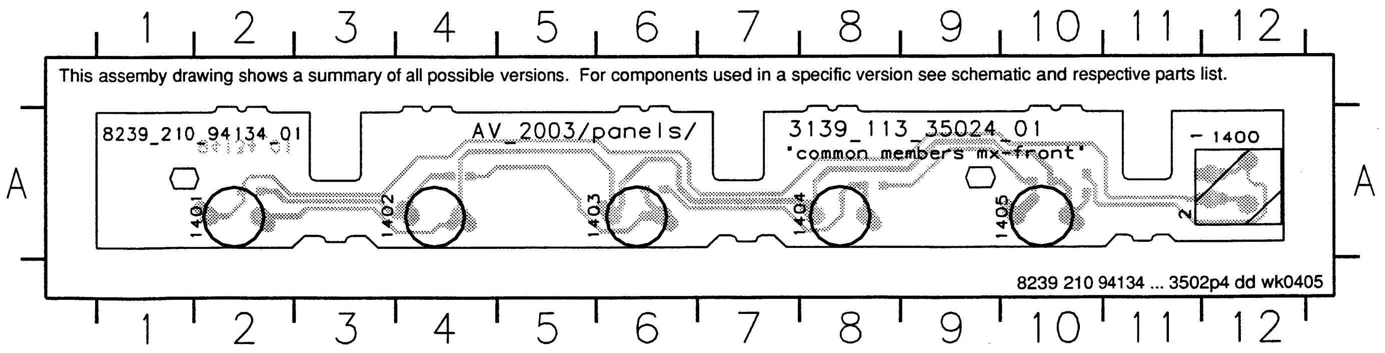
1400 A1	1402 A2	1404 A3	2400 A3	3401 A2	3403 A3
1401 A2	1403 A2	1405 A3	3400 A2	3402 A3	



1
2
3
A
To Front Control
1400
EH-S
GND_B
DISC1
DISC2
DISC3
DISC4
DISC5
3400
150R
3401
220R
3402
270R
3403
390R
1401
1402
1403
1404
1405
2400
100p
GND_B
GND_B
GND_B
GND_B
GND_B
GND_B
8239 210 94134 ..3502p4 dd wk0405

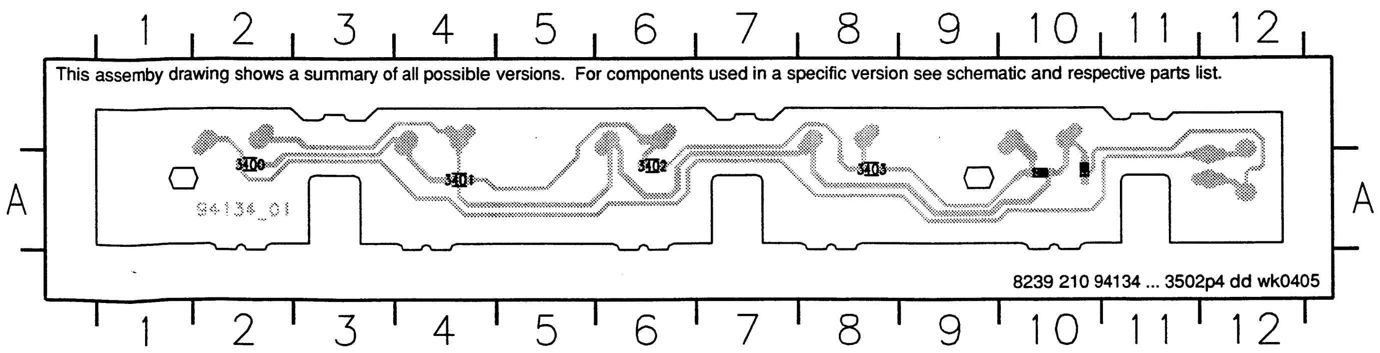
DTC KEY PART - COMPONENT & CHIP LAYOUTS (pt 4 board)

1400 A12	1401 A2	1402 A3	1403 A5	1404 A7	1405 A10



1
2
3
4
5
6
7
8
9
10
11
12
A
This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
8239_210_94134_01
AV_2003/panels/
3139_113_35024_01
'common members mx-front'
1400
1401
1402
1403
1404
1405
8239 210 94134 ... 3502p4 dd wk0405

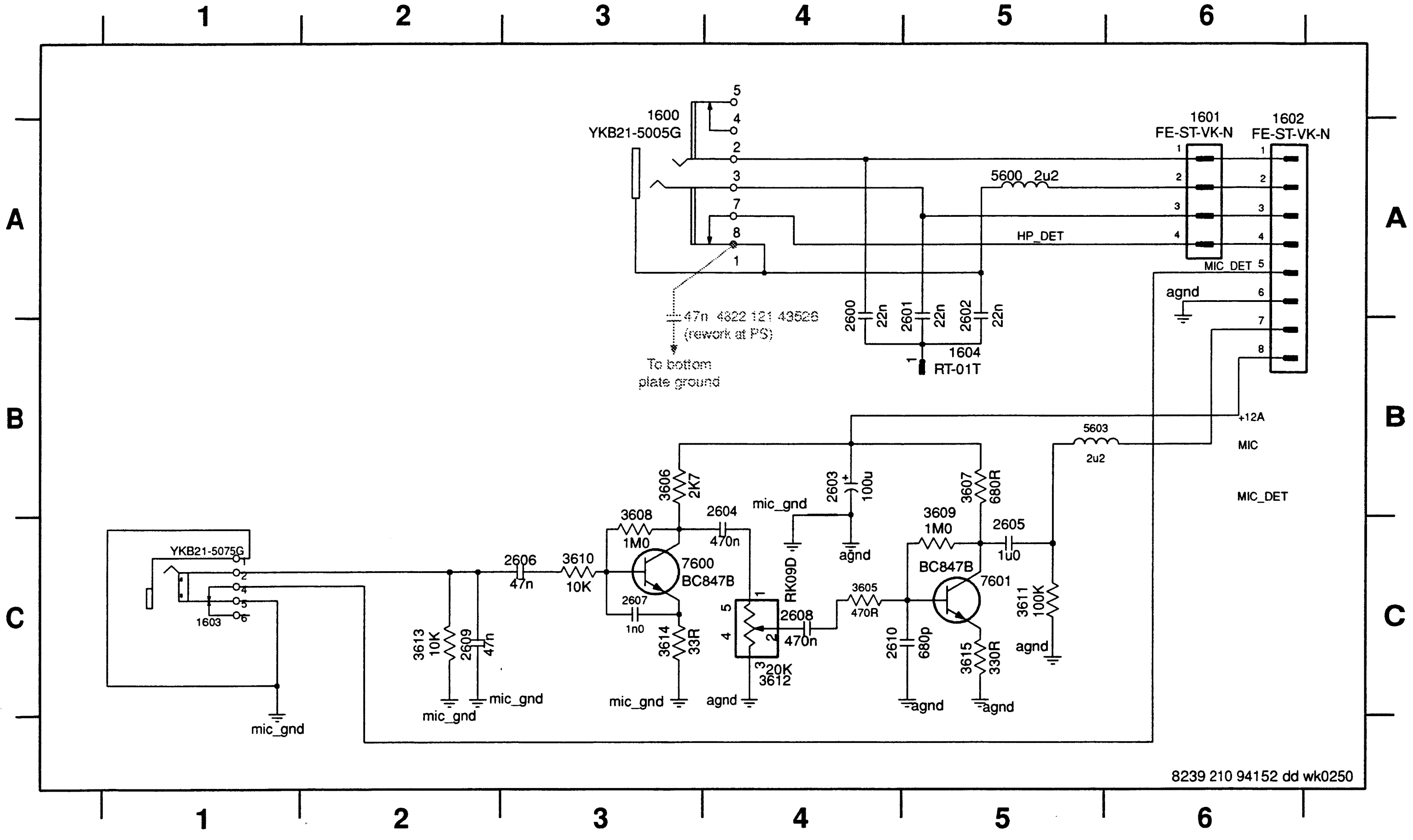
2400 A10	3400 A2	3401 A4	3402 A6	3403 A8	4400 A10



1
2
3
4
5
6
7
8
9
10
11
12
A
This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
3400
3401
3402
3403
94134_01
8239 210 94134 ... 3502p4 dd wk0405

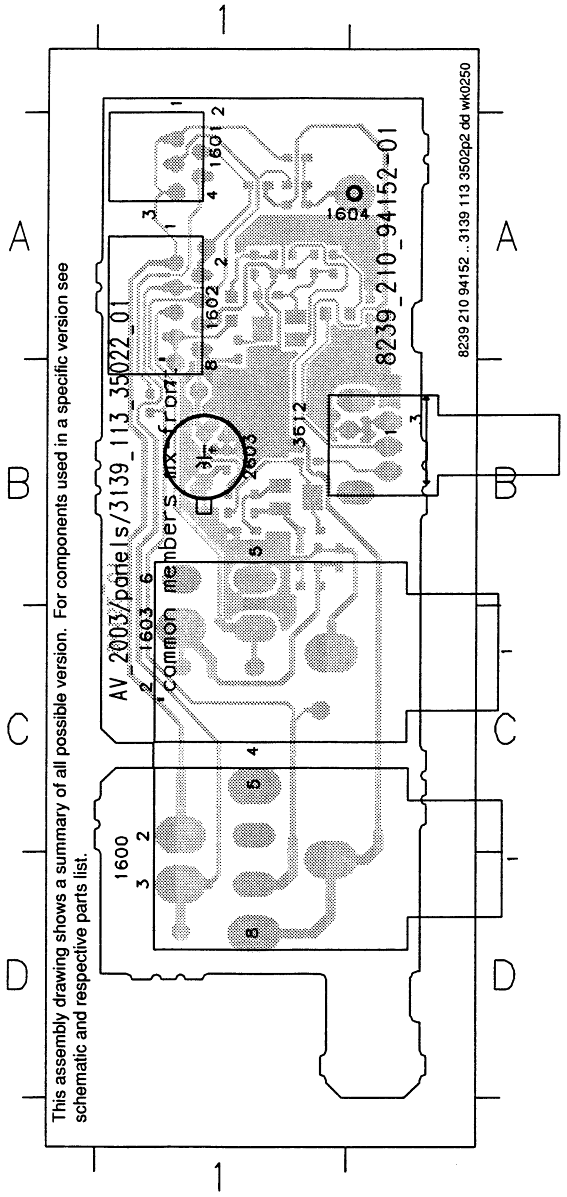
HDPH & MIC PART - CIRCUIT DIAGRAM

1600 A3	1602 A6	1604 B5	2601 A5	2603 B4	2605 C5	2607 C3	2609 C2	3605 C4	3607 B5	3609 C5	3611 C5	3613 C2	3615 C5	5603 B5	7601 C5
1601 A6	1603 C1	2600 A4	2602 A5	2604 B4	2606 C3	2608 C4	2610 C4	3606 B3	3608 C3	3610 C3	3612 C4	3614 C3	5600 A5	7600 C3	

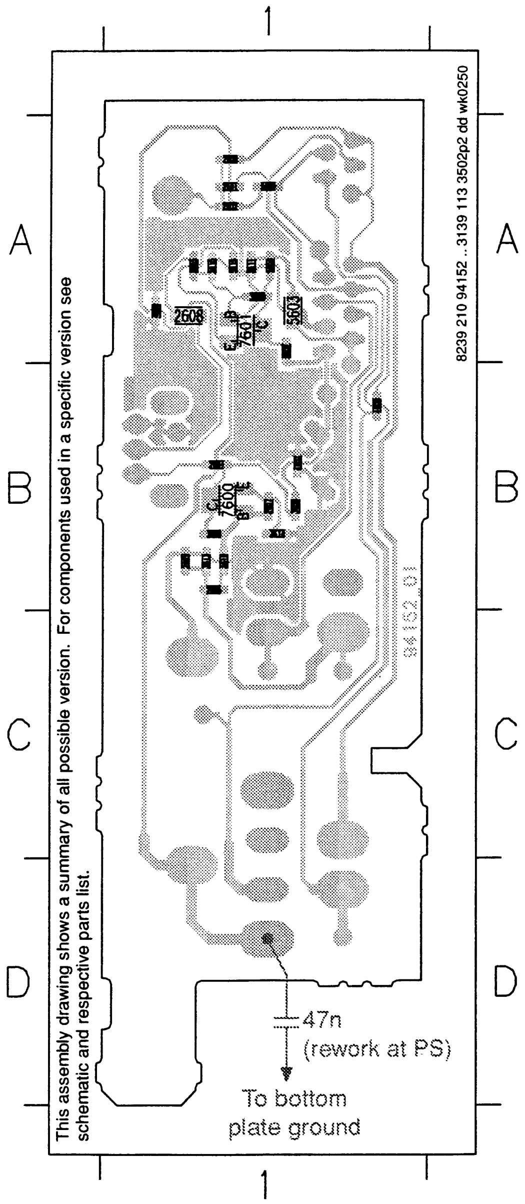

1
2
3
4
5
6
A
B
C
1600
YKB21-5005G
5
4
2
3
7
8
1
47n 4822 121 43528
(rework at PS)
To bottom
plate ground
2600 22n
2601 22n
2602 22n
1604
RT-01T
5600 2u2
HP_DET
1601
FE-ST-VK-N
1602
FE-ST-VK-N
MIC_DET
agnd
+12A
MIC
MIC_DET
5603
2u2
YKB21-5075G
1603
mic_gnd
3613 10K
2609 47n
2606 47n
3610 10K
3608 1M0
3606 2K7
2604 470n
7600 BC847B
2607 1n0
3614 33R
RK09D
3612 20K
2608 470n
3605 470R
2603 100u
2610 680p
3609 1M0
3607 680R
BC847B 7601
3615 330R
2605 1u0
3611 100K
agnd
8239 210 94152 dd wk0250

HDPH & MIC PART - COMPONENT & CHIP LAYOUTS

1600 D1	1602 A1	1604 A1	3612 B1
1601 A1	1603 C1	2603 B1	

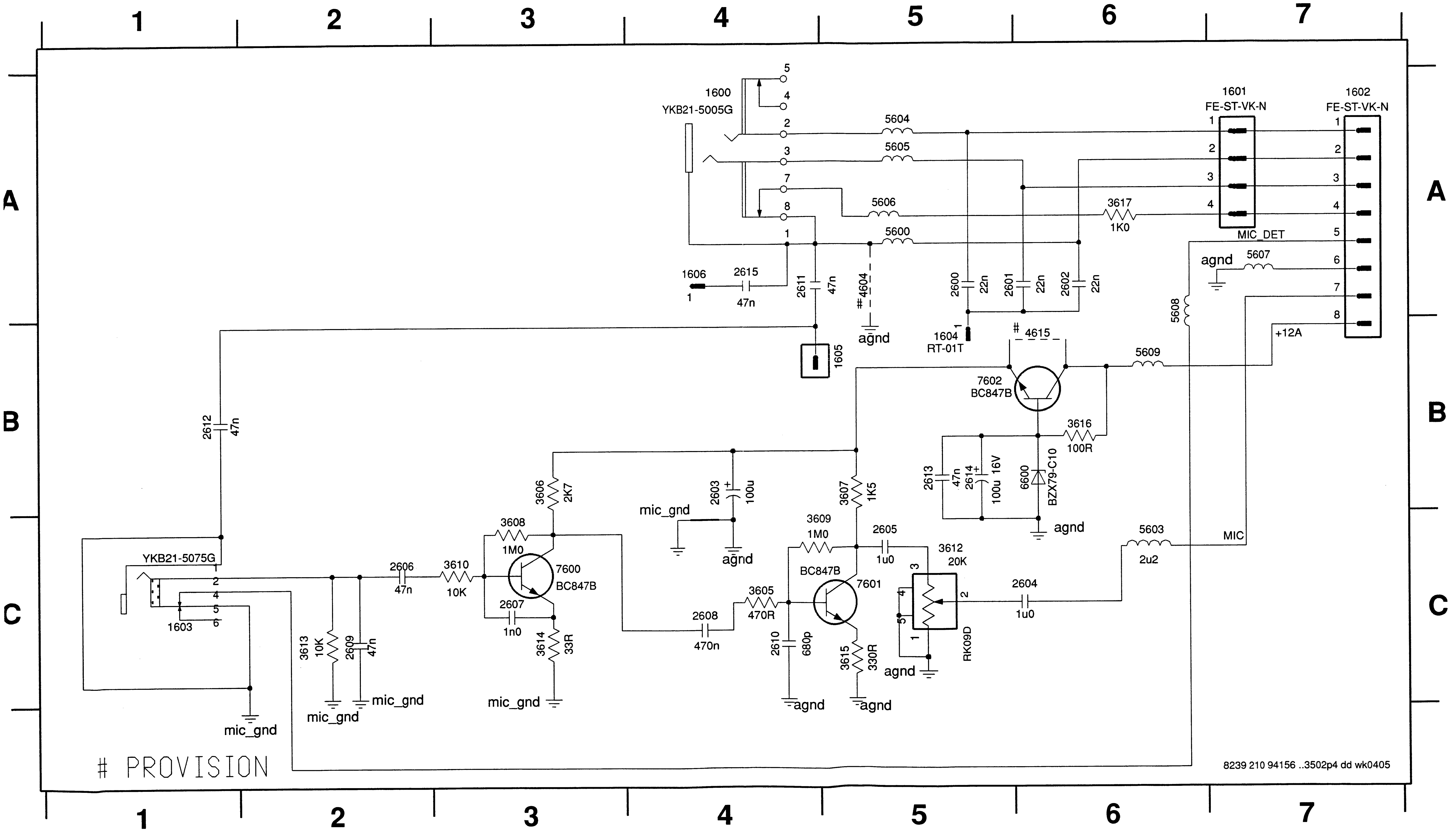

1
A
B
C
D
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
8239 210 94152 ..3139 113 3502p2 dd wk0250
1601
1602
1604
2603
3612
1603
1600
AV_2003/panels/3139_113_35022_01
8239_210_94152-01

2600 A1	2607 B1	3607 A1	3614 B1	5603 A1
2601 A1	2608 A1	3608 B1	3615 A1	7600 B1
2602 A1	2609 B1	3609 A1	4600 B1	7601 A1
2604 B1	2610 A1	3610 B1	4601 B1	
2605 A1	3605 A1	3611 A1	4602 A1	
2606 B1	3606 B1	3613 B1	5600 A1	

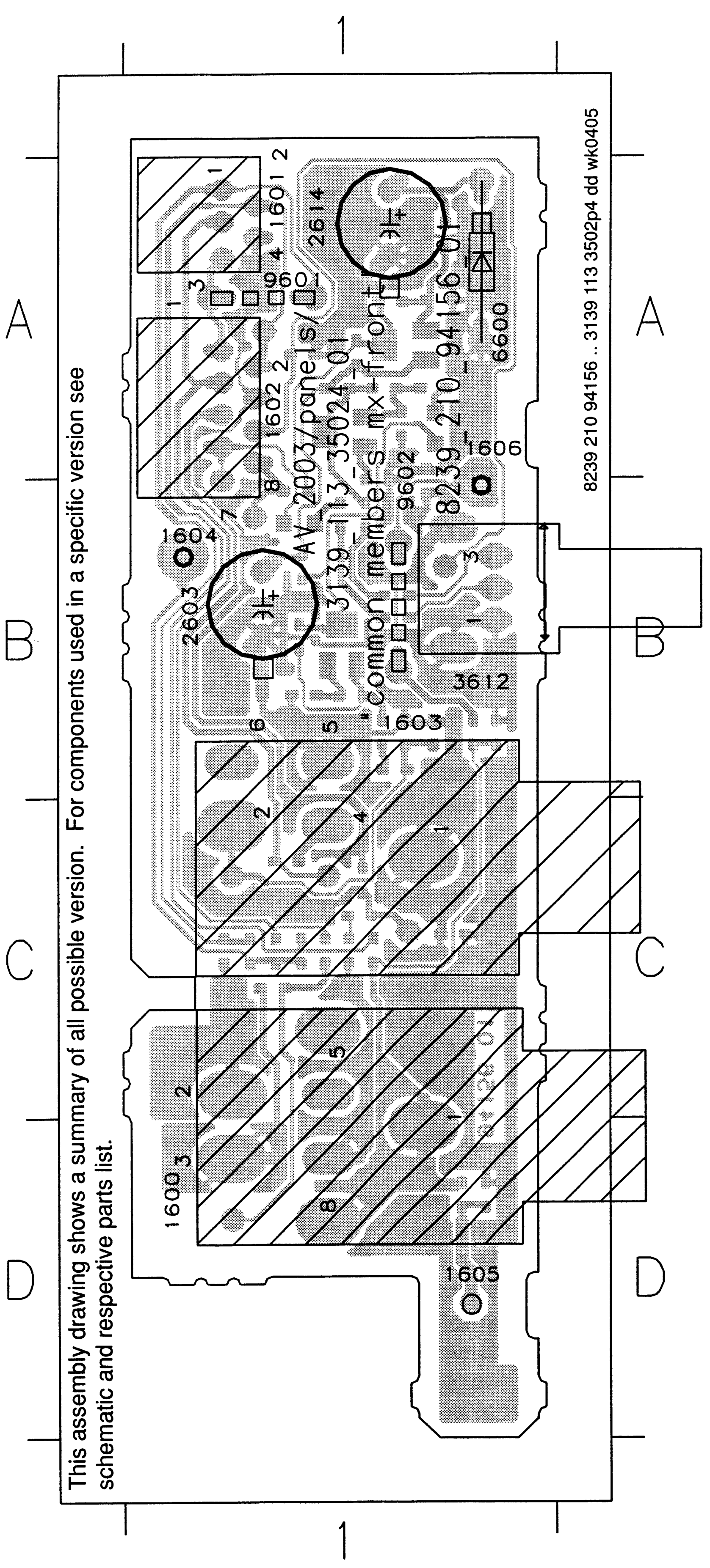

1
A
B
C
D
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
8239 210 94152 ..3139 113 3502p2 dd wk0250
2606
7601
7600
47n
(rework at PS)
To bottom
plate ground

DPH & MIC PART - CIRCUIT DIAGRAM (For pt 4 board)

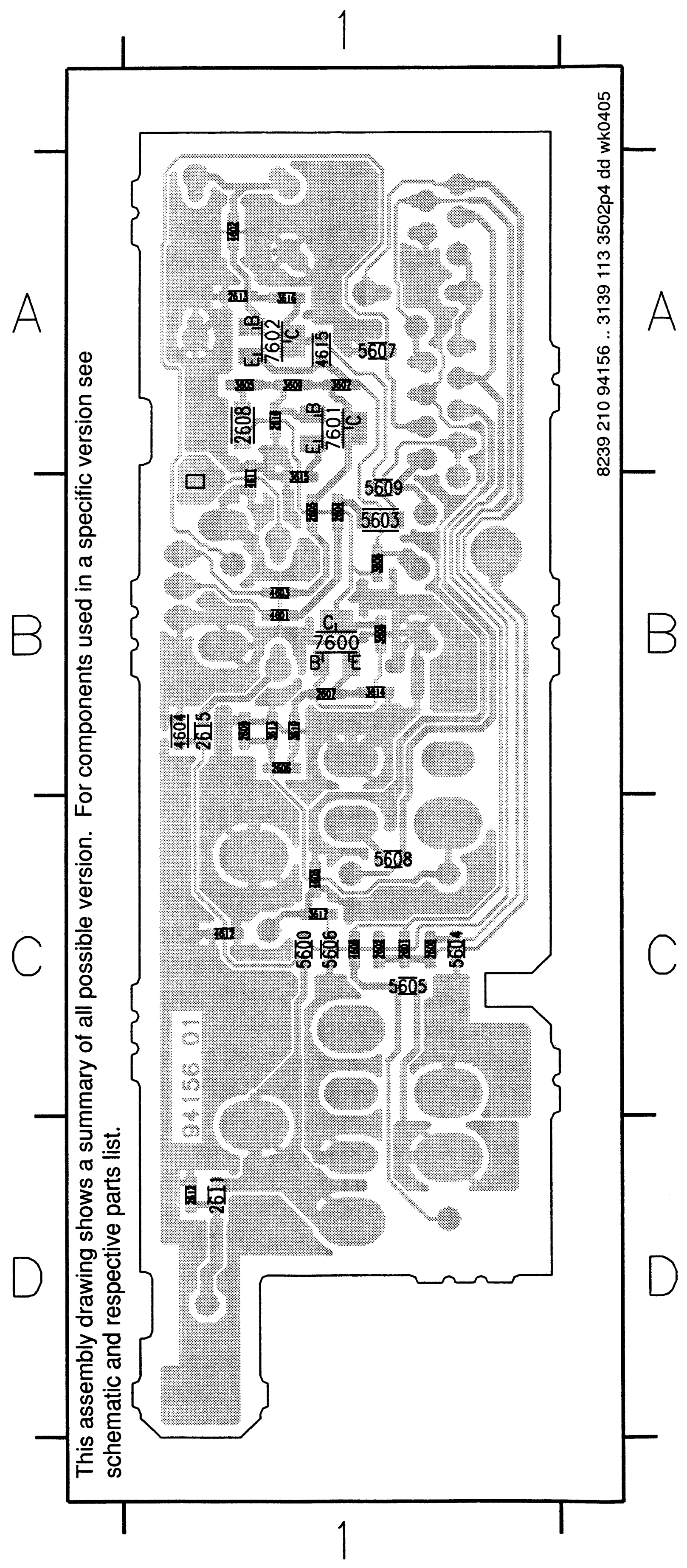
1600	A4
1601	A7
1602	A7
1603	C1
1604	B5
1605	B5
1606	A4
2600	A5
2601	A5
2602	A6
2603	B4
2604	C6
2605	C5
2606	C2
2607	C3
2608	C4
2609	C2
2610	C4
2611	A4
2612	B1
2613	B5
2614	B5
2615	A4
3605	C4
3606	B3
3607	B5
3608	C3
3609	C4
3610	C3
3612	C5
3613	C2
3614	C3
3615	C5
3616	B6
3617	A6
4604	A5
4615	B6
5600	A5
5603	C6
5604	A5
5605	A5
5606	A5
5607	A7
5608	A6
5609	B6
6600	B6
7600	C3
7601	C5
7602	B5


1
2
3
4
5
6
7
A
B
C
1600
YKB21-5005G
5
4
2
3
7
8
1
5604
5605
5606
5600
3617
1K0
1601
FE-ST-VK-N
1602
FE-ST-VK-N
MIC_DET
agnd
5607
5608
+12A
1606
2615
47n
2611
47n
# 4604
agnd
2600
22n
2601
22n
2602
22n
1604
RT-01T
1605
# 4615
7602
BC847B
5609
3616
100R
2613
47n
2614
100u 16V
6600
BZX79-C10
agnd
2612
47n
3606
2K7
3608
1M0
7600
BC847B
2607
1n0
3614
33R
2603
100u
mic_gnd
agnd
3607
1K5
3609
1M0
2605
1u0
3612
20K
5603
2u2
MIC
BC847B
7601
3605
470R
2608
470n
2610
680p
3615
330R
agnd
RK09D
2604
1u0
YKB21-5075G
1603
2606
47n
3610
10K
3613
10K
2609
47n
mic_gnd
# PROVISION
8239 210 94156 ..3502p4 dd wk0405

HDPH & MIC PART - COMPONENT & CHIP LAYOUTS (pt 4 board)


1
A
B
C
D
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
8239 210 94156 .. 3139 113 3502p4 dd wk0405
1601
1602
1603
1604
1605
1606
1600
2603
2614
3612
6600
9601
9602
AV_2003/panels/
3139_113_35024_01
*common members mx-front
8239_210_94156_01

1600	D1
1601	A1
1602	A1
1603	B1
1604	B1
1605	D1
1606	A1
2603	B1
2614	A1
3612	B1
6600	A1
9601	A1
9602	B1


1
A
B
C
D
This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.
8239 210 94156 .. 3139 113 3502p4 dd wk0405
5607
7602
7601
2608
4615
5609
5603
7600
4604
2615
5608
5600
5606
5604
5605
2611
94156 01

2600	C1
2601	C1
2602	C1
2604	B1
2605	B1
2606	B1
2607	B1
2608	A1
2609	B1
2610	A1
2611	D1
2612	D1
2613	A1
2615	B1
3605	A1
3606	B1
3607	A1
3608	B1
3609	A1
3610	B1
3613	B1
3614	B1
3615	B1
3616	A1
3617	C1
4600	C1
4601	B1
4602	A1
4603	B1
4604	B1
4605	C1
4611	B1
4612	C1
4615	A1
5600	C1
5603	B1
5604	C1
5605	C1
5606	C1
5607	A1
5608	C1
5609	B1
7600	B1
7601	A1
7602	A1

ELECTRICAL PARTS LIST - FRONT BOARDS

MISCELLANEOUS

100	3139 110 53311	FTD Display HNA-13LM05T
101	4822 267 10756	FFC Socket 13P Hort.
104	2422 025 16979	FFC Socket 4P Hort.
105	2422 025 14547	FFC Socket 17P Hort.
106	4822 267 10756	FFC Socket 13P Hort.
300	4822 267 10756	FFC Socket 13P Hort.
301	4822 276 13775	Tact Switch
302	4822 276 13775	Tact Switch
303	4822 276 13775	Tact Switch
304	4822 276 13775	Tact Switch
305	4822 276 13775	Tact Switch
306	4822 276 13775	Tact Switch
307	4822 276 13775	Tact Switch
308	4822 276 13775	Tact Switch
309	4822 276 13775	Tact Switch
310	4822 276 13775	Tact Switch
311	4822 276 13775	Tact Switch
313	4822 267 10956	FFC Socket 7P Hort.
314	2422 129 16975	Rotary Encoder Volume
315	2422 129 16974	Rotary Encoder Source
1401	4822 276 13775	Tact Switch
1402	4822 276 13775	Tact Switch
1403	4822 276 13775	Tact Switch
1404	4822 276 13775	Tact Switch
1405	4822 276 13775	Tact Switch
1500	4822 267 10956	FFC Socket 7P Hort.
1501	4822 276 13775	Tact Switch
1600	2422 026 05192	Headphone Socket D6,3
1601	4822 265 11183	FFC Socket 4P Hort.

CAPACITORS

2101	4822 126 13879	220nF +80/-20% 50V
2108	4822 122 33761	22pF 5% 50V
2109	4822 122 33761	22pF 5% 50V
2110	4822 126 14223	2,2pF +/-0,25pF 50V
2111	3198 017 41050	1uF 10V
2112	4822 122 33761	22pF 5% 50V
2113	2222 867 15339	33pF 5% 50V
2114	5322 126 11583	10nF 10% 50V
2115	2238 586 59812	100nF 10% 50V
2116	2238 586 59812	100nF 10% 50V
2117	3198 017 44740	470nF 10V
2118	5322 126 11583	10nF 10% 50V
2119	2238 586 59812	100nF 10% 50V
2120	2238 586 59812	100nF 10% 50V
2121	2020 552 94427	100pF 5% 50V
2122	2020 552 94427	100pF 5% 50V
2123	2020 552 94427	100pF 5% 50V
2124	2020 552 94427	100pF 5% 50V
2125	2020 552 94427	100pF 5% 50V
2126	4822 124 22726	4,7uF 20% 35V
2127	4822 124 22726	4,7uF 20% 35V
2129	4822 124 22726	4,7uF 20% 35V
2130	2238 586 59812	100nF 10% 50V
2131	4822 124 40433	47uF 20% 25V
2132	4822 124 40433	47uF 20% 25V
2133	4822 122 33761	22pF 5% 50V
2134	4822 122 33761	22pF 5% 50V
2135	4822 122 33761	22pF 5% 50V
2136	4822 122 33761	22pF 5% 50V
2137	4822 122 33761	22pF 5% 50V
2138	4822 122 33761	22pF 5% 50V
2139	4822 122 33761	22pF 5% 50V
2140	4822 122 33761	22pF 5% 50V
2141	3198 017 41050	1uF 10V
2142	4822 124 22726	4,7uF 20% 35V
2304	5322 126 11583	10nF 10% 50V
2305	5322 126 11583	10nF 10% 50V
2306	5322 126 11583	10nF 10% 50V
2307	5322 126 11583	10nF 10% 50V
2400	2020 552 94427	100pF 5% 50V
2501	4822 126 14491	2,2uF 10V 0805
2502	2020 552 94427	100pF 5% 50V
2600	4822 126 14494	22nF 10% 25V
2601	4822 126 14494	22nF 10% 25V
2602	4822 126 14494	22nF 10% 25V
2611	3198 017 34730	47nF 16V
2615	3198 017 34730	47nF 16V

RESISTORS

3105	4822 051 30474	470k 5% 0,062W
3110	4822 051 30103	10k 5% 0,062W
3112	4822 051 30103	10k 5% 0,062W
3115	4822 051 30103	10k 5% 0,062W
3116	4822 051 30103	10k 5% 0,062W
3117	4822 051 30102	1k 5% 0,062W
3118	4822 051 30472	4k7 5% 0,062W
3119	4822 051 30102	1k 5% 0,062W
3120	4822 051 30008	0R Jumper 0603
3121	4822 051 30008	0R Jumper 0603
3122	4822 051 30272	2k7 5% 0,062W
3125	4822 051 30102	1k 5% 0,062W
3126	4822 052 10479 ⚠	47R 5% 0,33W
3127	4822 052 10479 ⚠	47R 5% 0,33W
3130	4822 051 30684	680k 5% 0,062W
3132	4822 051 30684	680k 5% 0,062W
3133	4822 051 30223	22k 5% 0,062W
3158	4822 051 30103	10k 5% 0,062W
3159	4822 051 30103	10k 5% 0,062W
3160	4822 051 30103	10k 5% 0,062W
3161	4822 051 30102	1k 5% 0,062W
3162	4822 051 30102	1k 5% 0,062W
3163	4822 051 30102	1k 5% 0,062W
3164	4822 051 30223	22k 5% 0,062W

ELECTRICAL PARTS LIST - FRONT BOARDS

3165	4822 117 13632	100k 1% 0,062W
3166	4822 117 12864	82k 5% 0,062W
3167	4822 117 12864	82k 5% 0,062W
3168	4822 117 12864	82k 5% 0,062W
3169	4822 117 12864	82k 5% 0,062W
3170	4822 051 30103	10k 5% 0,062W
3171	4822 051 30103	10k 5% 0,062W
3172	4822 051 30103	10k 5% 0,062W
3173	4822 051 30103	10k 5% 0,062W
3174	4822 051 30103	10k 5% 0,062W
3175	4822 051 30103	10k 5% 0,062W
3176	4822 051 30103	10k 5% 0,062W
3177	4822 051 30105	1M 5% 0,062W
3201	4822 051 30103	10k 5% 0,062W
3303	4822 051 30151	150R 5% 0,062W
3304	4822 051 30221	220R 5% 0,062W
3305	4822 051 30271	270R 5% 0,062W
3306	4822 051 30391	390R 5% 0,062W
3307	4822 051 30561	560R 5% 0,062W
3308	4822 117 12968	820R 5% 0,62W
3309	4822 117 11817	1k2 1% 1/16W
3310	4822 117 12903	1k8 1% 0,063W
3311	4822 051 30272	2k7 5% 0,062W
3312	4822 051 30472	4k7 5% 0,062W
3330	4822 051 30272	2k7 5% 0,062W
3331	4822 051 30272	2k7 5% 0,062W
3332	4822 051 30103	10k 5% 0,062W
3333	4822 051 30103	10k 5% 0,062W
3334	4822 051 30103	10k 5% 0,062W
3335	4822 051 30103	10k 5% 0,062W
3336	4822 051 30103	10k 5% 0,062W
3400	4822 051 30151	150R 5% 0,062W
3401	4822 051 30221	220R 5% 0,062W
3402	4822 051 30271	270R 5% 0,062W
3403	4822 051 30391	390R 5% 0,062W
3501	4822 051 30471	470R 5% 0,062W
3502	4822 051 30121	120R 5% 0,062W
3503	4822 051 30101	100R 5% 0,062W
3504	4822 051 30103	10k 5% 0,062W
3505	4822 051 30471	470R 5% 0,062W
3506	4822 051 30471	470R 5% 0,062W
3617	4822 051 30102	1k 5% 0,062W
4100	4822 051 30008	0R Jumper 0603
4102	4822 051 30008	0R Jumper 0603
4103	4822 051 30008	0R Jumper 0603
4104	4822 051 30008	0R Jumper 0603
4105	4822 051 30008	0R Jumper 0603
4106	4822 051 30008	0R Jumper 0603
4107	4822 051 30008	0R Jumper 0603
4108	4822 051 30008	0R Jumper 0603
4109	4822 051 30008	0R Jumper 0603
4110	4822 051 30008	0R Jumper 0603
4111	4822 051 30008	0R Jumper 0603
4112	4822 051 30008	0R Jumper 0603
4113	4822 051 30008	0R Jumper 0603
4114	4822 051 30008	0R Jumper 0603
4115	4822 051 30008	0R Jumper 0603
4116	4822 051 30008	0R Jumper 0603
4117	4822 051 30008	0R Jumper 0603
4118	4822 051 30008	0R Jumper 0603
4119	4822 051 30008	0R Jumper 0603
4120	4822 051 30008	0R Jumper 0603
4121	4822 051 30008	0R Jumper 0603
4122	4822 051 30008	0R Jumper 0603
4123	4822 051 30008	0R Jumper 0603
4124	4822 051 30008	0R Jumper 0603
4125	4822 051 30008	0R Jumper 0603
4126	4822 051 30008	0R Jumper 0603
4127	4822 051 30008	0R Jumper 0603
4128	4822 051 30008	0R Jumper 0603
4129	4822 051 30008	0R Jumper 0603
4130	4822 051 30008	0R Jumper 0603
4131	4822 051 30008	0R Jumper 0603
4132	4822 051 30008	0R Jumper 0603
4133	4822 051 30008	0R Jumper 0603
4134	4822 051 30008	0R Jumper 0603
4135	4822 051 30008	0R Jumper 0603
4136	4822 051 30008	0R Jumper 0603
4137	4822 051 30008	0R Jumper 0603
4138	4822 051 30008	0R Jumper 0603
4139	4822 051 30008	0R Jumper 0603
4140	4822 051 30008	0R Jumper 0603
4141	4822 051 30008	0R Jumper 0603
4142	4822 051 30008	0R Jumper 0603
4143	4822 051 30008	0R Jumper 0603
4144	4822 051 30008	0R Jumper 0603
4145	4822 051 30008	0R Jumper 0603
4146	4822 051 30008	0R Jumper 0603
4147	4822 051 30008	0R Jumper 0603
4148	4822 051 30008	0R Jumper 0603
4149	4822 051 30008	0R Jumper 0603
4150	4822 051 30008	0R Jumper 0603
4151	4822 051 30008	0R Jumper 0603
4152	4822 051 30008	0R Jumper 0603
4153	4822 051 30008	0R Jumper 0603
4154	4822 051 30008	0R Jumper 0603
4155	4822 051 30008	0R Jumper 0603
4156	4822 051 30008	0R Jumper 0603
4157	4822 051 30008	0R Jumper 0603
4158	4822 051 30008	0R Jumper 0603
4159	4822 051 30008	0R Jumper 0603
4160	4822 051 30008	0R Jumper 0603
4162	4822 051 30008	0R Jumper 0603
4165	4822 051 30008	0R Jumper 0603

ELECTRICAL PARTS LIST - FRONT BOARDS

RESISTORS

4301	4822 051 30008	0R Jumper 0603
4302	4822 051 30008	0R Jumper 0603
4303	4822 051 30008	0R Jumper 0603
4304	4822 051 30008	0R Jumper 0603
4305	4822 051 30008	0R Jumper 0603
4306	4822 051 30008	0R Jumper 0603
4307	4822 051 30008	0R Jumper 0603
4308	4822 051 30008	0R Jumper 0603
4309	4822 051 30008	0R Jumper 0603
4310	4822 051 30008	0R Jumper 0603
4311	4822 051 30008	0R Jumper 0603
4312	4822 051 30008	0R Jumper 0603
4313	4822 051 30008	0R Jumper 0603
4314	4822 051 30008	0R Jumper 0603
4315	4822 051 30008	0R Jumper 0603
4316	4822 051 30008	0R Jumper 0603
4317	4822 051 30008	0R Jumper 0603
4318	4822 051 30008	0R Jumper 0603
4319	4822 051 30008	0R Jumper 0603
4320	4822 051 30008	0R Jumper 0603
4321	4822 051 30008	0R Jumper 0603
4323	4822 051 30008	0R Jumper 0603
4324	4822 051 30008	0R Jumper 0603
4325	4822 051 30008	0R Jumper 0603
4326	4822 051 30008	0R Jumper 0603
4327	4822 051 30008	0R Jumper 0603
4328	4822 051 30008	0R Jumper 0603
4329	4822 051 30008	0R Jumper 0603
4330	4822 051 30008	0R Jumper 0603
4332	4822 051 30008	0R Jumper 0603
4334	4822 051 30008	0R Jumper 0603
4337	4822 051 30008	0R Jumper 0603
4338	4822 051 30008	0R Jumper 0603
4339	4822 051 30008	0R Jumper 0603
4342	4822 051 30008	0R Jumper 0603
4343	4822 051 30008	0R Jumper 0603
4400	4822 051 30008	0R Jumper 0603
4500	4822 051 30008	0R Jumper 0603
4501	4822 051 30008	0R Jumper 0603
4600	4822 051 30008	0R Jumper 0603
4601	4822 051 30008	0R Jumper 0603
4602	4822 051 30008	0R Jumper 0603
4605	4822 051 30008	0R Jumper 0603

COILS & FILTERS

5100	3198 018 52280	Coil 2,2uH 10% 0603
5102	5322 242 73686	Ceram Resonator 12MHz
5103	4822 242 70938	X'tal Resonator 32,768kHZ
5104	3198 018 52280	Coil 2,2uH 10% 0603
5600	2422 549 44608	Ind Fxd 100MHz 1k
5604	2422 549 44608	Ind Fxd 100MHz 1k
5605	2422 549 44608	Ind Fxd 100MHz 1k
5606	2422 549 44608	Ind Fxd 100MHz 1k

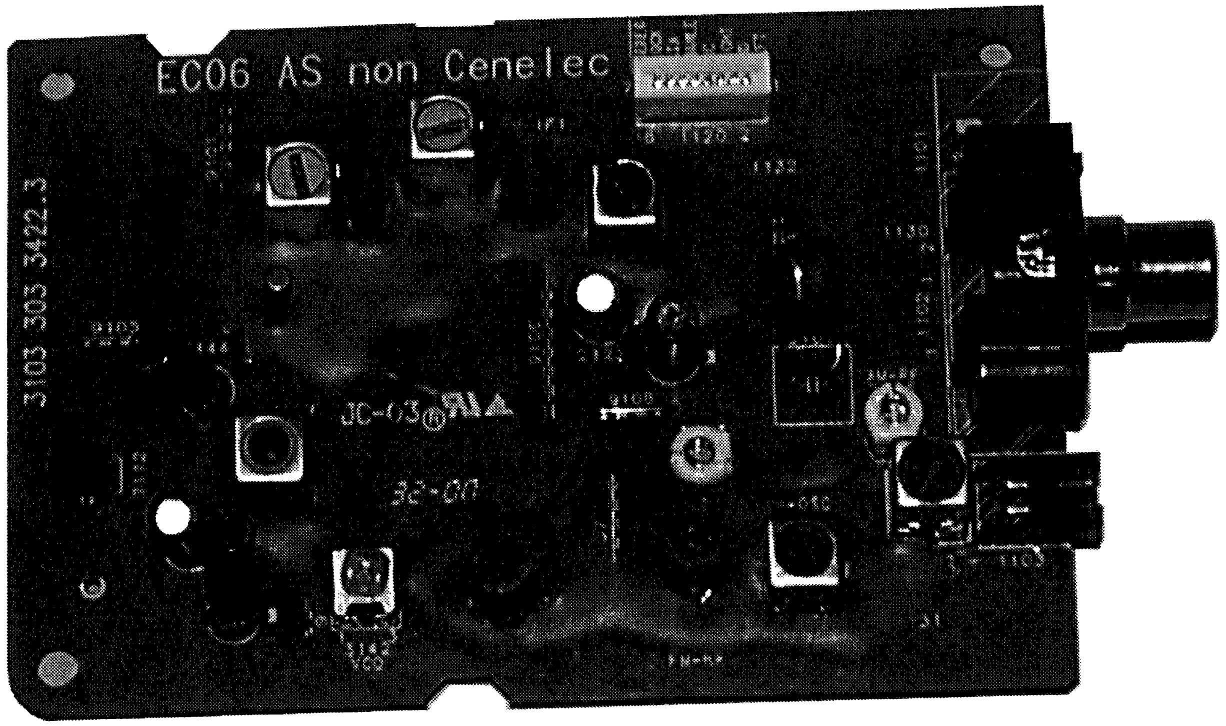
DIODES

6100	4822 130 30621	1N4148
6101	4822 130 30621	1N4148
6103	4822 130 30621	1N4148
6106	4822 130 31878	1N4003G
6105	4822 130 80622	BAT54
6107	4822 130 83206	BZX79-B5V6
6108	4822 130 11397	BAS316
6113	4822 130 31878	1N4003G
6118	4822 130 80622	BAT54
6119	4822 130 31878	1N4003G
6308	4822 130 11416	BZX384-C6V8
6309	4822 130 11416	BZX384-C6V8
6310	4822 130 11416	BZX384-C6V8
6311	4822 130 11416	BZX384-C6V8
6500	9322 179 76676	LTL-816EELC
6501	9322 183 96676	LTL-816GE

TRANSISTORS & INTEGRATED CIRCUITS

7100	3139 110 53491	TMP88CU74F with "3900S53491"
7103	9322 145 26668	M24C02-WMN6
7104	5322 130 60159	BC847B
7105	5322 130 60159	BC847B
7106	5322 130 60159	BC847B
7107	5322 130 60159	BC847B
7108	5322 130 60159	BC847B
7109	5322 130 60159	BC847B
7500	5322 130 60159	BC847B
7501	9322 185 97667	IR RECEIVER TSOP4836ZC1
7504	5322 130 60159	BC847B

Note: Only the parts mentioned in this list are normal service spare parts.


EC06 AS non Cenelec
3103 303 3422.3
JC-03

ECO6 Tuner Board

version: ***SYSTEMS non-CENELEC***

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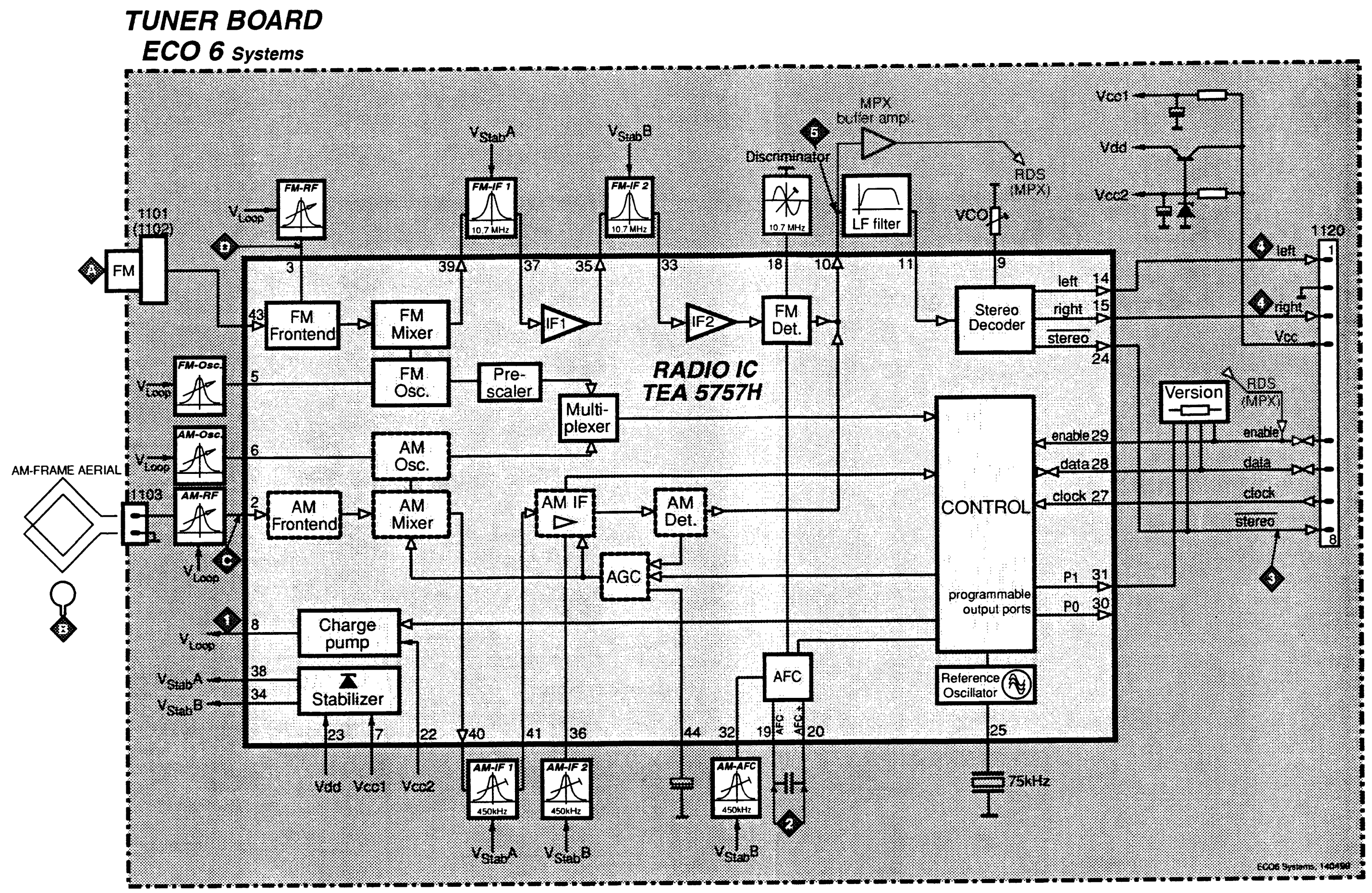
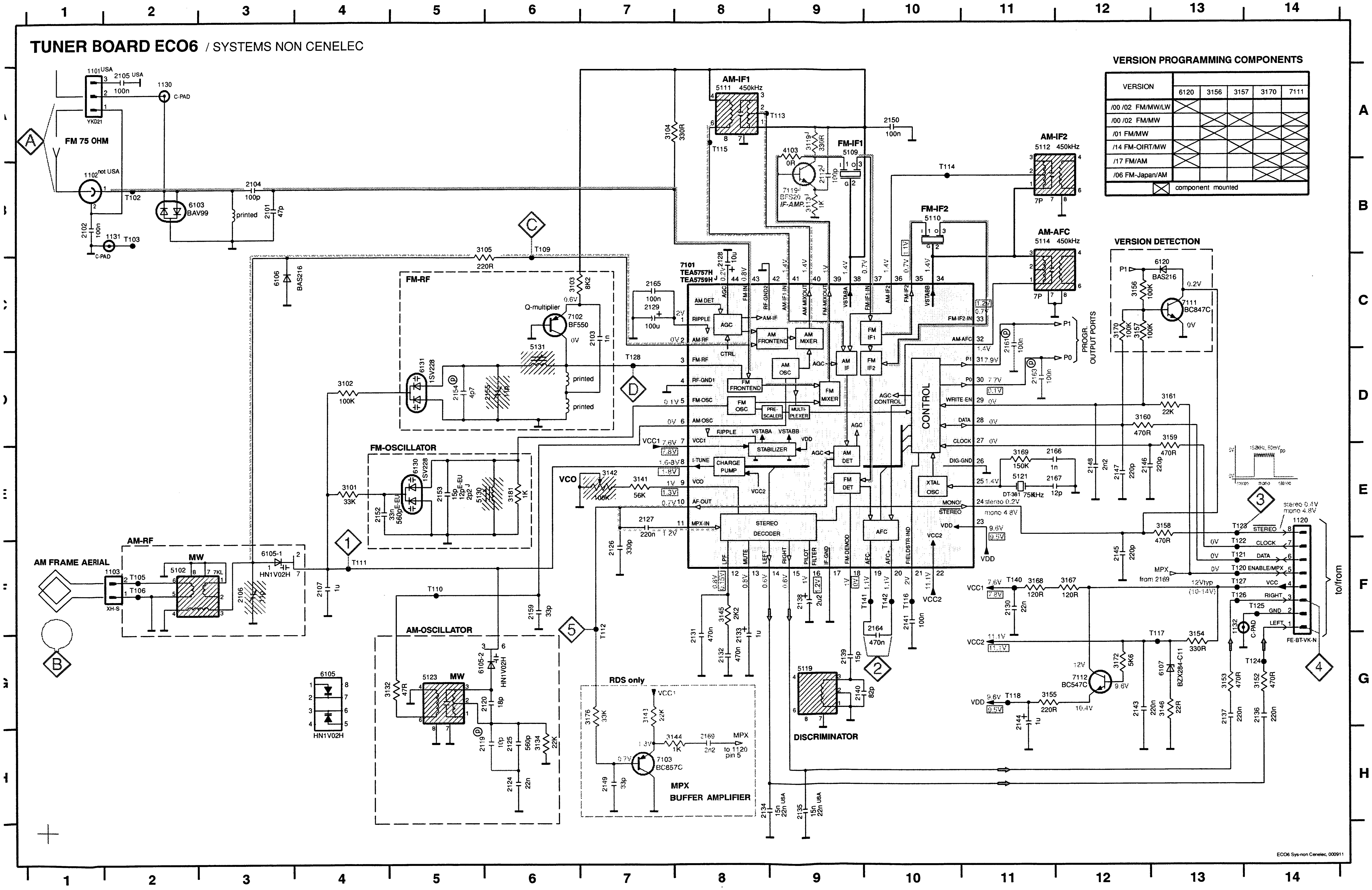
Adjustment table 7A-3
Electrical Partslist...7A-4

BLOCK DIAGRAM


TUNER BOARD
ECO 6 Systems
RADIO IC
TEA 5757H
FM
1101
(1102)
FM-RF
FM-IF 1
10.7 MHz
FM-IF 2
10.7 MHz
Discriminator
10.7 MHz
LF filter
MPX
buffer ampl.
RDS
(MPX)
VCO
Vcc1
Vdd
Vcc2
FM Frontend
FM Mixer
IF1
IF2
FM Det.
FM Osc.
Pre-scaler
Multi-plexer
FM-Osc.
AM-Osc.
AM-RF
AM-FRAME AERIAL
1103
AM Osc.
AM Frontend
AM Mixer
AM IF
AM Det.
AGC
Charge pump
Stabilizer
AFC
Stereo Decoder
CONTROL
programmable output ports
Reference Oscillator
Version
AM-IF 1
450kHz
AM-IF 2
450kHz
AM-AFC
450kHz
75kHz
Vdd
Vcc1
Vcc2
left
right
stereo
enable
data
clock
Vcc
P1
P0
1120
1
8
A
B
C
D
1
2
3
4
5
ECO6 Systems, 140498

TUNER BOARD ECO6 / SYSTEMS NON CENELEC


FM 75 OHM
AM FRAME AERIAL
AM-RF
MW
FM-RF
Q-multiplier
FM-OSCILLATOR
VCO
AM-OSCILLATOR
RDS only
MPX
BUFFER AMPLIFIER
AM-IF1
5111 450kHz
FM-IF1
5109
FM-IF2
5110
AM-IF2
5112 450kHz
AM-AFC
5114 450kHz
IF-AMP
7101
TEA5757H
TEA5759H J
AM DET
RIPPLE
AM-RF
FM-RF
RF-GND1
FM-OSC
AM-OSC
VCC1
I-TUNE
VCO
AF-OUT
MPX-IN
AGC
CTRL
AM FRONTEND
AM MIXER
AM OSC
FM FRONTEND
FM OSC
PRE-SCALER
MULTI-PLEXER
FM MIXER
AM IF
FM IF1
FM IF2
STABILIZER
VSTABA
VSTABB
CHARGE PUMP
AM DET
FM DET
STEREO DECODER
AFC
CONTROL
XTAL OSC
AGC CONTROL
FM-IF2-IN
AM-AFC
P1
P0
WRITE-EN
DATA
CLOCK
DIG-GND
MONO/STEREO
VDD
VCC2
LPF
MUTE
LEFT
RIGHT
PILOT
FILTER
IF GND
FM DEMOD
AFC-
AFC+
FIELDSTR IND
PROGR. OUTPUT PORTS
DISCRIMINATOR
VERSION DETECTION
1120
STEREO
CLOCK
DATA
ENABLE/MPX
VCC
RIGHT
GND
LEFT
FE-BT-VK-N
to/from
MPX from 2169
6105
HN1V02H
ECO6 Sys-non Cenelec, 000911

VERSION PROGRAMMING COMPONENTS

VERSION	6120	3156	3157	3170	7111
/00 /02 FM/MW/LW	☒				
/00 /02 FM/MW		☒	☒		☒
/01 FM/MW		☒		☒	☒
/14 FM-OIRT/MW	☒		☒		☒
/17 FM/AM	☒			☒	☒
/06 FM-Japan/AM				☒	☒

☒ component mounted

LEGEND

Ⓟ...for provision only
USA ... for USA version only
E-EU ... for East European version only
J ... for Japanese version only

Ⓥ EVM

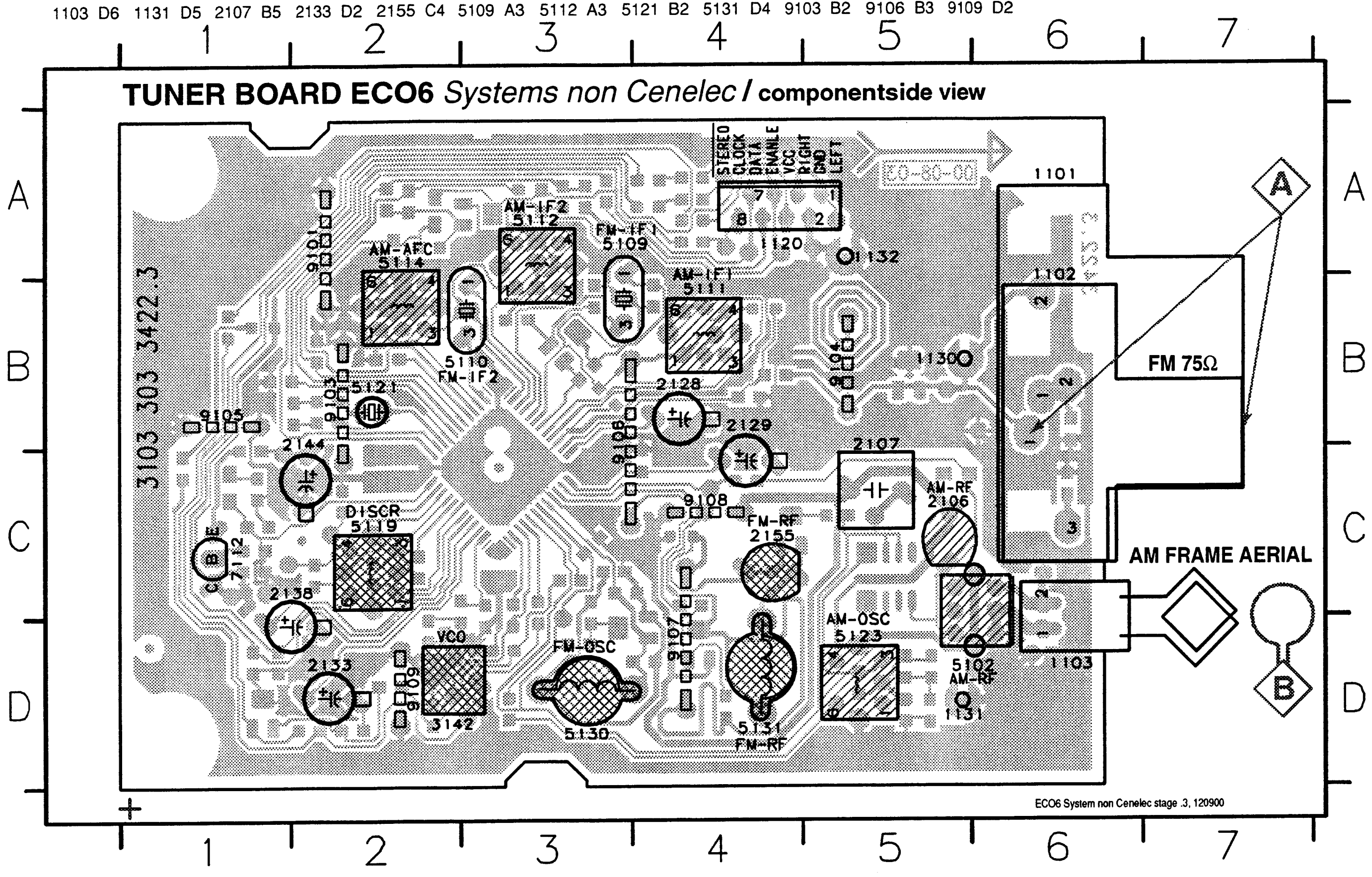
...V FM mode stereo
...V MW mode
...V LW mode
voltages measured while
set is tuned to a strong transmitter

Signal path

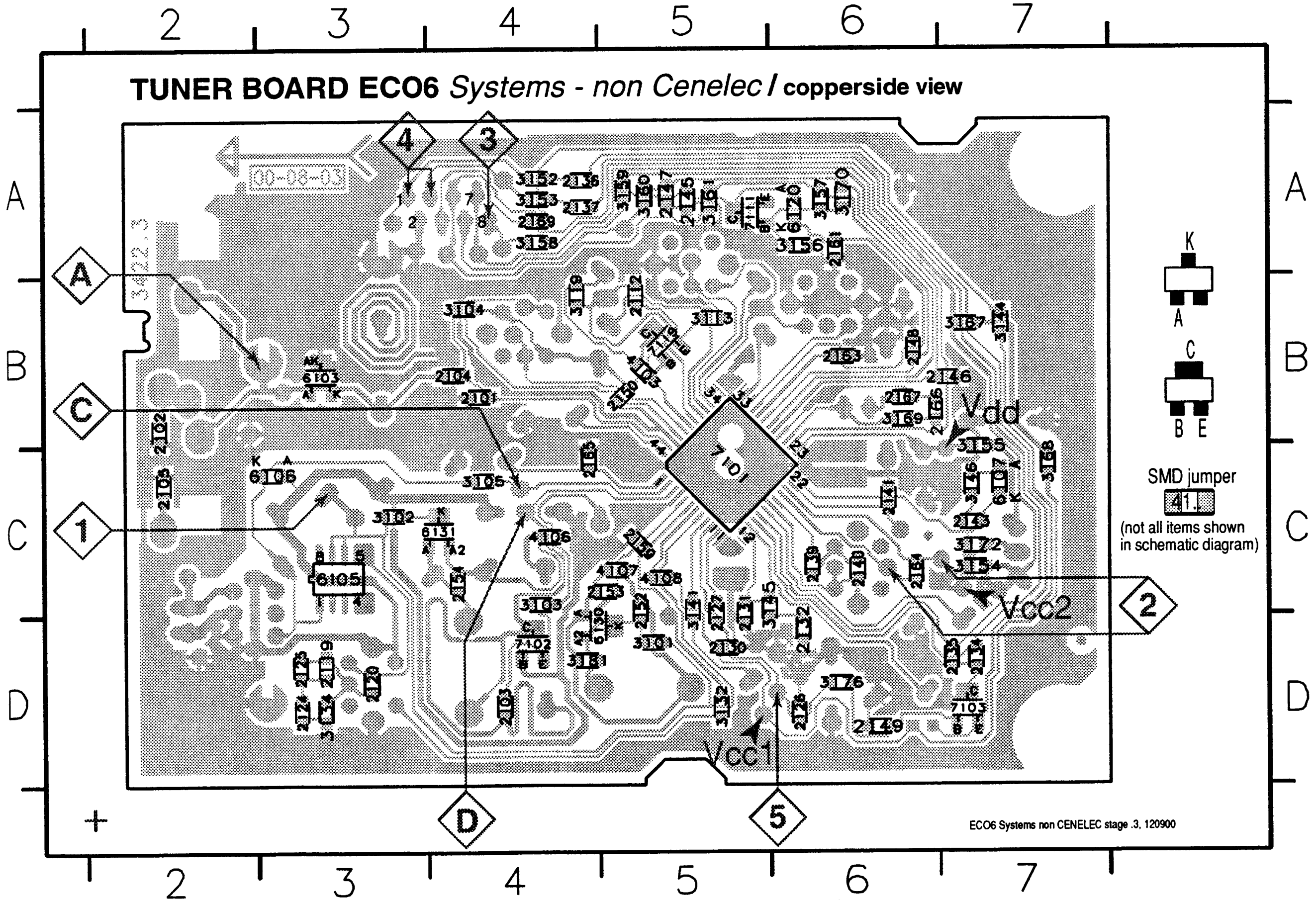
- FM
- AM
- MPX (Audio Frequency)
- ⇨ AF - left/right

1101	A1
1102	B1
1103	F2
1120	E14
1130	A2
1131	B2
1132	G13
2101	B3
2102	B1
2103	C7
2104	B3
2105	A2
2106	F3
2107	F4
2119	H6
2120	G6
2124	H6
2125	H6
2126	F7
2127	E7
2128	C8
2129	C7
2130	F11
2131	G8
2132	G8
2133	G8
2134	H8
2135	H9
2136	G14
2137	G13
2138	F9
2139	G9
2140	G9
2141	F10
2143	G12
2144	G11
2145	F12
2146	E12
2147	E12
2148	E12
2149	H7
2150	A10
2152	E4
2153	E5
2154	D5
2155	D5
2159	F6
2161	C11
2163	D11
2164	F10
2165	C7
2166	E11
2167	E11
2169	H8
3101	E4
3102	D4
3103	C6
3104	A7
3105	B6
3132	G5
3134	H6
3141	E7
3142	E7
3143	G7
3144	H7
3145	F8
3146	G13
3152	G14
3153	G13
3154	G13
3155	G11
3156	C12
3157	C12
3158	E13
3159	D13
3160	D12
3161	D13
3167	F12
3168	F11
3169	E11
3170	C12
3172	G12
3176	G7
3181	E6
5102	F2
5109	B9
5110	B10
5111	A8
5112	A11
5114	B11
5119	G9
5121	E11
5123	G5
5130	E5
5131	C6
6103	B2
6105-1	F3
6105-2	G5
6106	C3
6107	G13
6120	C13
6130	E5
6131	D5
7101	C8
7102	C6
7103	H7
7111	C13
7112	G12
T102	B2
T103	B2
T105	F2
T106	F2
T109	B6
T110	F5
T111	F4
T112	F7
T113	A8
T114	B10
T115	A8
T116	F10
T117	G13
T118	G11
T120	F13
T121	F13
T122	F13
T123	E13
T124	G14
T125	F14
T126	F13
T127	F13
T128	D7
T140	F11
T141	F10
T142	F10

1101	A6	1120	A4	1132	A5	2128	C4	2138	C2	3142	D2	5110	B3	5114	A2	5123	D5	7112	C1	9104	B5	9107	D4
1102	B6	1130	B5	2106	C5	2129	B4	2144	B2	5102	D6	5111	B4	5119	C2	5130	D3	9101	A2	9105	B1	9108	C4
1103	D6	1131	D5	2107	B5	2133	D2	2155	C4	5109	A3	5112	A3	5121	B2	5131	D4	9103	B2	9106	B3	9109	D2

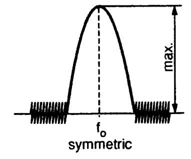
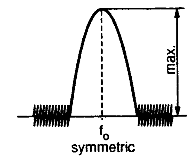

TUNER BOARD ECO6 Systems non Cenelec / componentside view
1
2
3
4
5
6
7
A
B
C
D
STEREO
CLOCK
DATA
ENABLE
VCC
RIGHT
GND
LEFT
1101
1102
1103
1120
1130
1131
1132
AM-IF2 5112
FM-IF1 5109
AM-AFC 5114
AM-IF1 5111
5110 FM-IF2
5121
2128
2129
2107
AM-RF 2106
FM-RF 2155
DISCR 5119
VCO
FM-OSC
AM-OSC 5123
5102 AM-RF
5131 FM-RF
5130
3142
2133
2138
2144
7112
9101
9103
9104
9105
9106
9107
9108
9109
3103 303 3422.3
FM 75Ω
AM FRAME AERIAL
A
B
ECO6 System non Cenelec stage .3, 120900

2101	B4	2119	D3	2130	D5	2137	A4	2146	B7	2153	C5	2165	C4	3103	C4	3134	D3	3152	A4	3158	A4	3169	B6	4106	C4	6107	C7	7103	D7
2102	B1	2120	D3	2131	C5	2139	C6	2147	A5	2154	C4	2166	B6	3104	B4	3141	C5	3153	A4	3159	A5	3170	A6	4107	C5	6120	A6	7111	A5
2103	D4	2124	D3	2132	D6	2140	C6	2148	B6	2159	C5	2167	B6	3105	C4	3143	D6	3154	C7	3160	A5	3172	C7	4108	C5	6130	D4	7119	B5
2104	B4	2125	D3	2134	D7	2141	C6	2149	D6	2161	A6	2169	A4	3113	B5	3144	B7	3155	C7	3161	A5	3176	D6	6103	B3	6131	C4		
2105	C1	2126	D6	2135	D7	2143	C7	2150	B5	2163	B6	3101	D5	3119	B5	3145	C5	3156	A6	3167	B7	3181	D4	6105	C3	7101	C5		
2112	B5	2127	C5	2136	A4	2145	A5	2152	C5	2164	C6	3102	C3	3132	D5	3146	C7	3157	A6	3168	C7	4103	B5	6106	C3	7102	D4		


TUNER BOARD ECO6 Systems - non Cenelec / copperside view
2
3
4
5
6
7
A
B
C
D
A
C
1
4
3
D
5
2
Vdd
Vcc1
Vcc2
7101
K
A
C
B E
SMD jumper
4111
(not all items shown in schematic diagram)
ECO6 Systems non CENELEC stage .3, 120900

These assembly drawings show a summary of all possible versions.
For components used in a specific version see schematic diagram respectively partslist.

TUNER ADJUSTMENT TABLE (ECO6 FM/MW- and FM/MW/LW - versions with AM-frame aerial)

Waverange	Input frequency	Input	Tuned to	Adjust	Output	Scope/Voltmeter
VARICAP ALIGNMENT						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)			108MHz	5130	◇1	8V ±0.2V
			87.5MHz (65.81MHz)	check		4.3V ±0.5V (1.2V ±0.5V)
MW FM/AM-version, 10kHz grid 530 - 1700kHz			1700kHz	5123		8V ±0.2V
			530kHz	check		1.1V ±0.4V
FM/MW-version, 9kHz grid 531 - 1602kHz			1602kHz	5123		6.9V ±0.2V
			531kHz	check		1.1V ±0.4V
LW 153 - 279kHz			279kHz	5122		8V ±0.2V
			153kHz	check		1.1V ±0.4V
MW FM/MW/LW- version, 9kHz grid 531 - 1602kHz			1602kHz	5123		8V ±0.2V
			531kHz	check		1.1V ±0.4V
FM IF						
FM	10.7MHz, 45mV continuous wave	◇D	IC 7101 21 shortcircuit to block AFC 2141	5119	◇2	0 ± 3 mV DC
FM RF						
FM 87.5 - 108MHz (65.81 - 74, 87.5 - 108MHz)	108MHz	◇A mod=1kHz Δf=±22.5kHz	108MHz	2155	◇4	MAX
	87.5MHz (65.81MHz)		87.5MHz (65.81MHz)	5131		
VCO						
FM	98MHz, 1mV continuous wave	◇A	98MHz	3142	◇3	152kHz ±1kHz [1]
AM IF						
MW	450kHz connect pin 6 of IC 7101 (AM Osc.) with 3.3kΩ to Vcc	◇C Δf=±10kHz V_{RF} = 0.5mV (as low as possible)	IC 7101 36 100nF 220R	5111	◇5	
			IC 7101 40 100nF 220R see remark [2]	5112		
AM AFC **MW**		◇C continuous wave V_{RF} = 2mV		5114	◇2	0 ± 2 mV DC
AM RF [3]						
MW [4] FM/MW/LW- and FM/MW-version (9kHz grid) 531 - 1602kHz	1494kHz	◇B Δf = ±30kHz V_{RF} as low as possible	1494kHz	2106	◇5	
	558kHz		558kHz	5102		
LW	198kHz		198kHz	5103		
MW FM/AM-version, 10kHz grid 530 - 1700kHz	1500kHz		1500kHz	2106		
	560kHz		560kHz	5102		

ECO6, Sys + PA with frame aerial, 070799

Use Service Testprogram. By selecting the TUNER TEST test frequencies will be stored as preset frequencies automatically.

[1] If sensitivity of frequency counter is too low adjust to max. channel separation (input signal: stereo left 90% + 9%, adjust output on right channel to minimum)

[2] RC network serves for damping the IF-filter while adjusting the other one.

[3] For AM RF adjustments the original frame antenna has to be used !

[4] MW has to be aligned before LW.

↕ Repeat

ISCELLANEOUS

101	2422 015 19376	SOCKET 2P CLICKFIT	USA only
102	4822 267 10283	SOCKET COAX, IEC 75Ω	not USA
103	4822 265 31184	JST CONNECTOR 2 POLE	
120	4822 265 11515	FFC SOCKET, 8P	

APACITORS

101 ©	4822 126 13692	47pF	1%	63V	
102 ©	4822 126 13838	100nF	10%	50V	not USA
103 ©	5322 122 31647	1nF	10%	63V	
104 ©	5322 122 32531	100pF	5%	50V	
105 ©	4822 126 13838	100nF	10%	50V	USA only
106	2020 800 00191	3-11pF TRIMCAP.,N450			
107	4822 121 51319	1µF	20%	50V	
120 ©	4822 126 13689	18pF	1%	63V	
124 ©	5322 122 32654	22nF	10%	63V	
125 ©	2020 552 96199	560pF	1%	50V	
126 ©	5322 122 31863	330pF	5%	50V	
127 ©	4822 126 14076	220nF	20%	25V	
128	4822 124 40248	10µF	20%	63V	
129	4822 124 41584	100µF	20%	10V	
130 ©	5322 122 32654	22nF	10%	63V	
131 ©	4822 126 13482	470nF	20%	16V	
132 ©	4822 126 13482	470nF	20%	16V	
133	4822 124 21913	1µF	20%	63V	
134 ©	4822 126 13188	15nF	5%	63V	not USA
134 ©	5322 122 32654	22nF	10%	63V	USA only
135 ©	4822 126 13188	15nF	5%	63V	not USA
135 ©	5322 122 32654	22nF	10%	63V	USA only
136 ©	4822 126 14076	220nF	20%	25V	
137 ©	4822 126 14076	220nF	20%	25V	
138	4822 124 22652	2,2µF	20%	50V	
139 ©	4822 126 14236	15pF	5%	50V	
140 ©	4822 126 13695	82pF	1%	63V	
141 ©	4822 126 13838	100nF	10%	50V	
143 ©	4822 126 14076	220nF	20%	25V	
144	4822 124 21913	1µF	20%	63V	
145 ©	4822 122 33575	220pF	5%	50V	
146 ©	4822 122 33575	220pF	5%	50V	
147 ©	4822 122 33575	220pF	5%	50V	
148 ©	4822 122 33127	2,2nF	10%	63V	
149 ©	5322 122 32659	33pF	5%	50V	RDS only
150 ©	4822 126 13838	100nF	10%	50V	
152 ©	4822 126 12105	33nF	5%	63V	not for East Europe
152 ©	5322 116 80853	560pF	5%	63V	for East Europe only
153 ©	4822 126 13486	15pF	2%	63V	not for East Europe
153 ©	4822 122 33926	12pF	2%	50V	for East Europe only
155	2020 800 00191	3-11pF TRIMCAP.,N450			
159 ©	5322 122 32659	33pF	5%	50V	
164 ©	4822 126 13482	470nF	20%	16V	
165 ©	4822 126 13838	100nF	10%	50V	
166 ©	5322 122 31647	1nF	10%	63V	
167 ©	4822 122 33926	12pF	5%	50V	
169 ©	4822 122 33127	2,2nF	10%	63V	RDS only

ESISTORS

101 ©	4822 051 20333	33kΩ	5%	0,1W	
102 ©	4822 117 10837	100kΩ	1%	0,1W	
103 ©	4822 051 20822	8,2kΩ	5%	0,1W	
104 ©	4822 117 13577	330Ω	1%	0,1W	
105 ©	4822 117 11503	220Ω	5%	0,1W	
132 ©	4822 051 20479	47Ω	5%	0,1W	
134 ©	4822 051 20223	22kΩ	5%	0,1W	
141 ©	4822 117 11148	56kΩ	1%	0,1W	
142	4822 100 12159	TRIMPOT. 100kΩ			

RESISTORS

3143 ©	4822 051 20223	22kΩ	5%	0,1W	RDS only
3144 ©	4822 051 10102	1kΩ	2%	0,25W	RDS only
3145 ©	4822 117 11449	2,2kΩ	1%	0,1W	
3146 ©	4822 051 20229	22Ω	5%	0,1W	
3152 ©	4822 051 20471	470Ω	5%	0,1W	
3153 ©	4822 051 20471	470Ω	5%	0,1W	
3154 ©	4822 117 13577	330Ω	1%	0,1W	
3155 ©	4822 117 11503	220Ω	5%	0,1W	
3156 ©	4822 117 10837	100kΩ	1%	0,1W	
3157 ©	4822 117 10837	100kΩ	1%	0,1W	
3158 ©	4822 051 20471	470Ω	5%	0,1W	
3159 ©	4822 051 20471	470Ω	5%	0,1W	
3160 ©	4822 051 20471	470Ω	5%	0,1W	
3161 ©	4822 051 20223	22kΩ	5%	0,1W	
3167 ©	4822 051 20121	120Ω	5%	0,1W	
3168 ©	4822 051 20121	120Ω	5%	0,1W	
3169 ©	4822 051 20154	150kΩ	5%	0,1W	
3170 ©	4822 117 10837	100kΩ	1%	0,1W	
3172 ©	4822 051 20562	5,6kΩ	5%	0,1W	
3176 ©	4822 051 20333	33kΩ	5%	0,1W	RDS only
3181 ©	4822 051 10102	1kΩ	2%	0,25W	
4103 ©	4822 051 20008	CHIP JUMPER 0805			
4106 ©	4822 051 20008	CHIP JUMPER 0805			
4107 ©	4822 051 20008	CHIP JUMPER 0805			
4108 ©	4822 051 20008	CHIP JUMPER 0805			

COILS

5102	4822 157 71634	RF-COIL MW
5109	4822 242 70665	FM-IF FILTER 10,7MHz
5110	4822 242 70665	FM-IF FILTER 10,7MHz
5111	2422 549 44023	AM-IF FILTER 450kHz
5112	4822 157 70302	AM-IF FILTER 450kHz
5114	4822 157 70302	AM-IF FILTER 450kHz
5119	4822 157 11443	DISCRIMINATOR COIL
5121	4822 242 10261	QUARTZ 75kHz
5123	2422 549 44108	RF-COIL, AM-OSCILLATOR
5130	4822 157 11843	RF COIL 1,5 TURNS
5131	4822 157 11843	RF COIL 1,5 TURNS

DIODES

6103 ©	5322 130 34337	BAV99
6105 ©	4822 130 83075	HN1V02H
6106 ©	4822 130 83757	BAS216
6107 ©	9340 386 90115	BZX284-C11
6120 ©	4822 130 83757	BAS216
6130 ©	4822 130 82833	1SV228
6131 ©	4822 130 82833	1SV228

TRANSISTORS

7102	4822 130 42131	BF550	
7103 ©	5322 130 42756	BC857C	RDS only
7111 ©	5322 130 42755	BC847C	
7112	4822 130 44503	BC547C	

INTEGRATED CIRCUITS

7101 ©	9351 740 80557	TEA5757H/V1, RADIO IC

POWER MODULE PWR207

(6 x 75W / 7 x 75W)

TABLE OF CONTENTS

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Exploded view + mechanical parts 8-2
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Mains & ECO Stby Board - Component & Chip layouts 8-5
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Amplifier Board - Component side view 8-11
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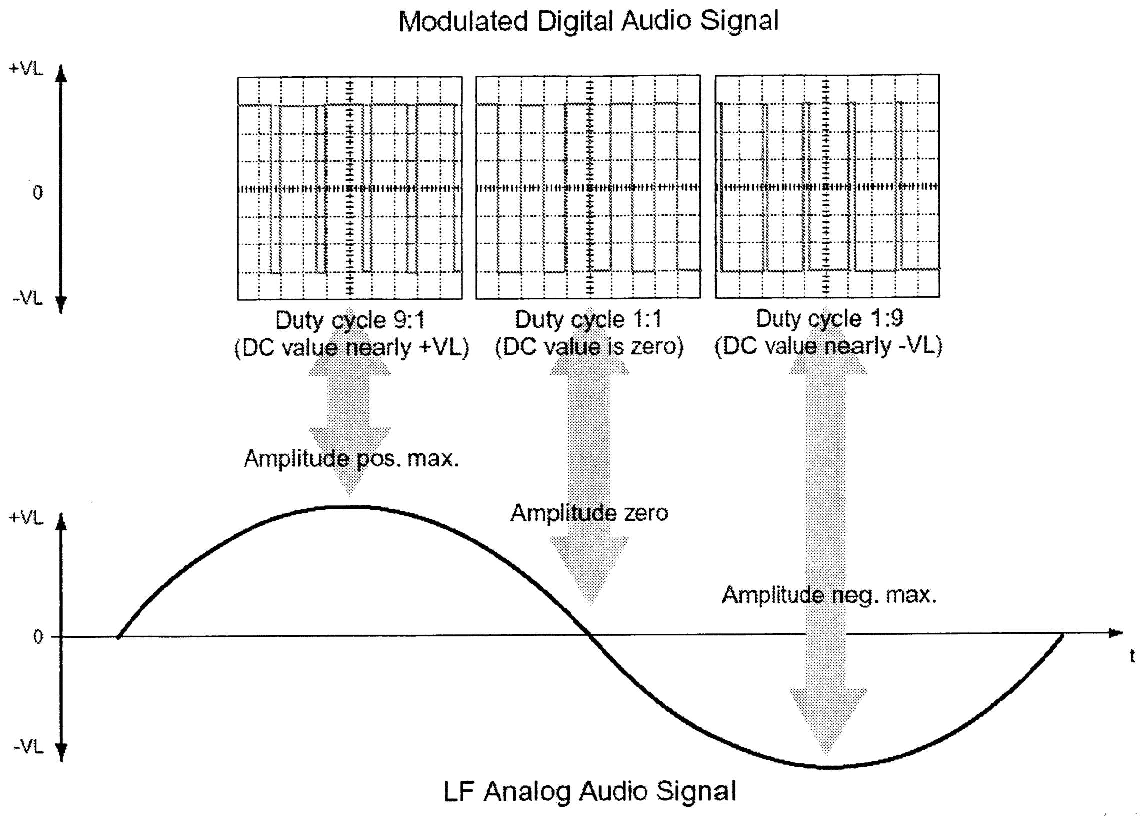
Electrical parts list - Amplifier board 8-13

6-channel class-D amplifier

Basic operation of a class-D amplifier

Basically, the output stage of a class-D amplifier outputs a continuous square wave swinging between positive and negative power supplies with a fixed frequency ("clock" frequency) far beyond the audible range. The duty cycle of this square wave is modulated with the audio signal. The output is followed by a low-pass filter which eliminates the clock frequency and allows only the audio signal going to the speaker. See simplified drawing below.


Modulated Digital Audio Signal
+VL
0
-VL
Duty cycle 9:1
(DC value nearly +VL)
Duty cycle 1:1
(DC value is zero)
Duty cycle 1:9
(DC value nearly -VL)
Amplitude pos. max.
Amplitude zero
Amplitude neg. max.
+VL
0
-VL
t
LF Analog Audio Signal

Compared to a conventional power amplifier the benefits of the Class-D amplifier are:

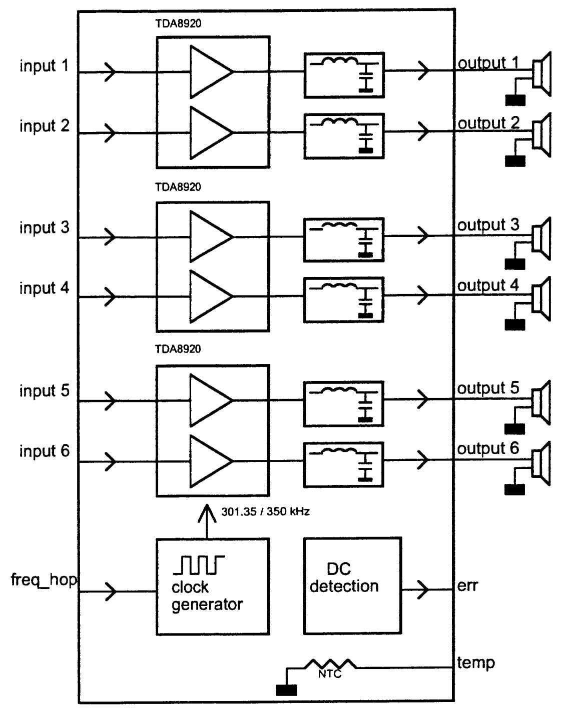
- higher effiency
- lower power dissipation
- smaller heatsink required
- smaller mains transformer required

The main disadvantage of this concept is:

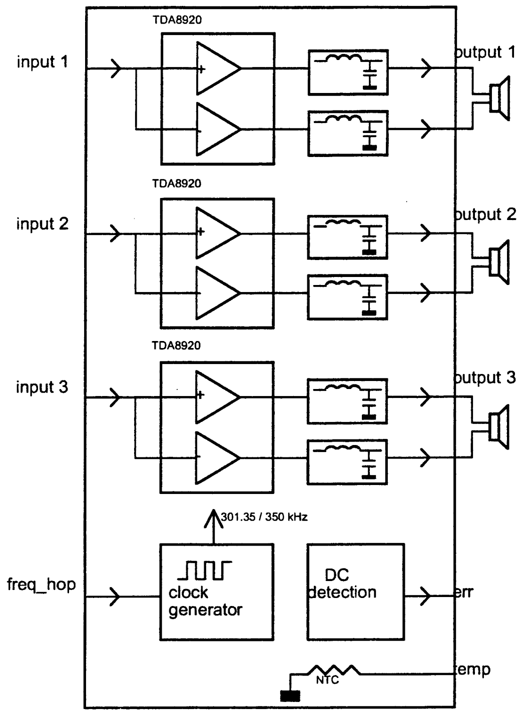
- The amplifier is operating with a high-frequency square wave at high amplitude and currents. This requires special precautions to prevent excessive electromagnetic ratiation (EMC).

lock diagram and operation

SINGLE ENDED 6 x 75W


TDA8920
input 1
input 2
input 3
input 4
input 5
input 6
output 1
output 2
output 3
output 4
output 5
output 6
301.35 / 350 kHz
freq_hop
clock generator
DC detection
err
temp
NTC

BRIDGE 3 x 100W


TDA8920
input 1
input 2
input 3
utput 1
utput 2
utput 3
301.35 / 350 kHz
freq_hop
clock generator
DC detection
rr
emp
NTC

clock oscillator

he clock frequency is generated around IC7600. Using 2 extra transistors (7602 and 7608) and 2 ceramic resonators it can be operated at frequencies: 602.7kHz and 700kHz. The frequency is selected by the signal “FREQ_HOP” coming from connector 1301 pin 9.

Vhen FREQ_HOP is low, the output of 7600-1 will be high. This switches transistor 7602 on, and connects resonator 1600 (602.7kHz) to inverter 600-3. Similarly, when FREQ_HOP is high, resonator 1601 is connected to 7600-3.

he output frequency is divided by two by IC7607, resulting in 301.35kHz or 350kHz.

he purpose of a selectable clock frequency is related to the disturbance of the tuner which is built-in together with this amplifier. In MW, the oftware of the set microprocessor will select the other clock frequency in case the amplifier clock interferes with the tuned station.

Class-D amplifier TDA8920 and low-pass filter

he TDA8920 is a two channel audio power amplifier using class-D technology. The audio input signal is converted into a digital Pulse Width odulated (PWM) signal via an analog input stage and PWM modulator. It is then fed to the power stage which outputs a high power PWM ignal which switches between the main supply lines.

he TDA8920 is followed by a 2nd-order low-pass filter. It has a cut-off frequency around 50kHz and converts the PWM signal into analog audio ignal across the loudspeaker.

he TDA8920 has a temperature protection and a current limiter built-in.

urthermore, the IC can be put in active, mute and standby mode.

Active mode (amplifier fully operational) with output signal.

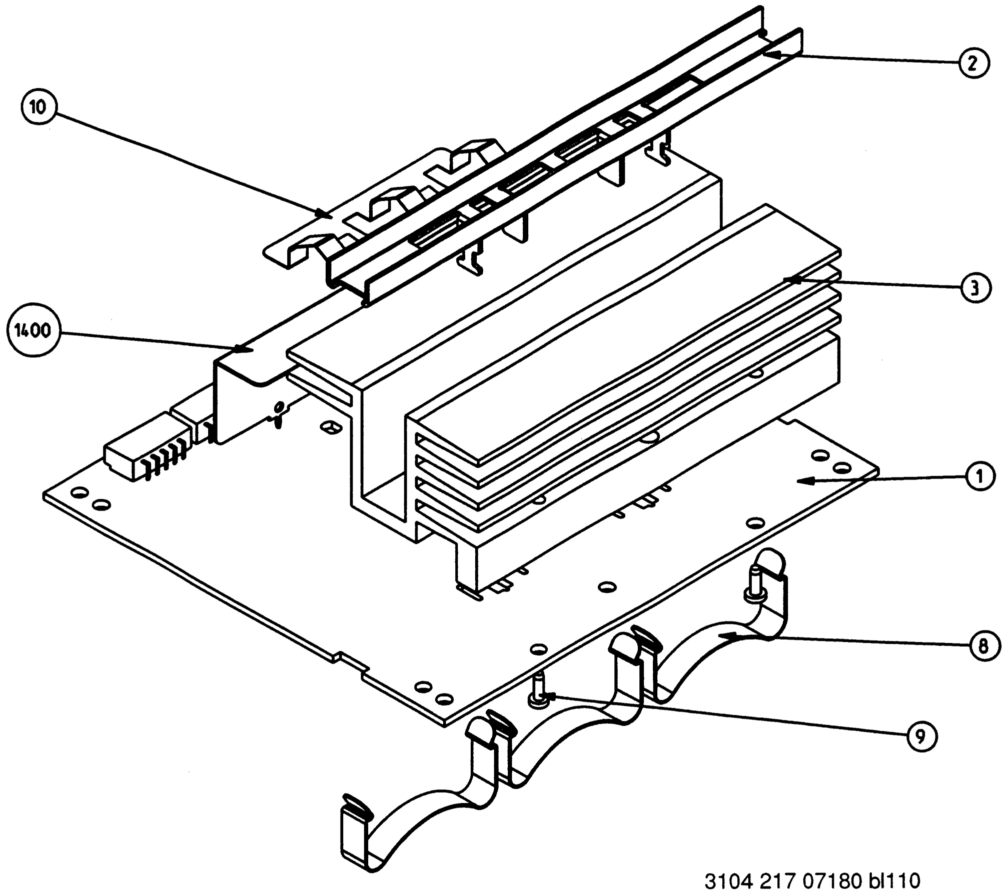
Mute mode; the amplifiers are operational, but the audio is muted

Standby mode; with a very low supply current, the output stage is switched off.

DC-detection

he DC-detection circuit monitors all 6 outputs for DC. Whenever one or more outputs contain DC for more than 1 second, the circuit will be ctivated. A positive voltage will activate transistor 7710 and pin 10 of connector 1301 will be pulled down. In case of a negative voltage, transistor 716 will be activated, which in turn activates 7710. The set microprocessor will take further action.

MECHANICAL EXPLODED VIEW


②
⑩
③
1400
①
⑧
⑨

3104 217 07180 bl110

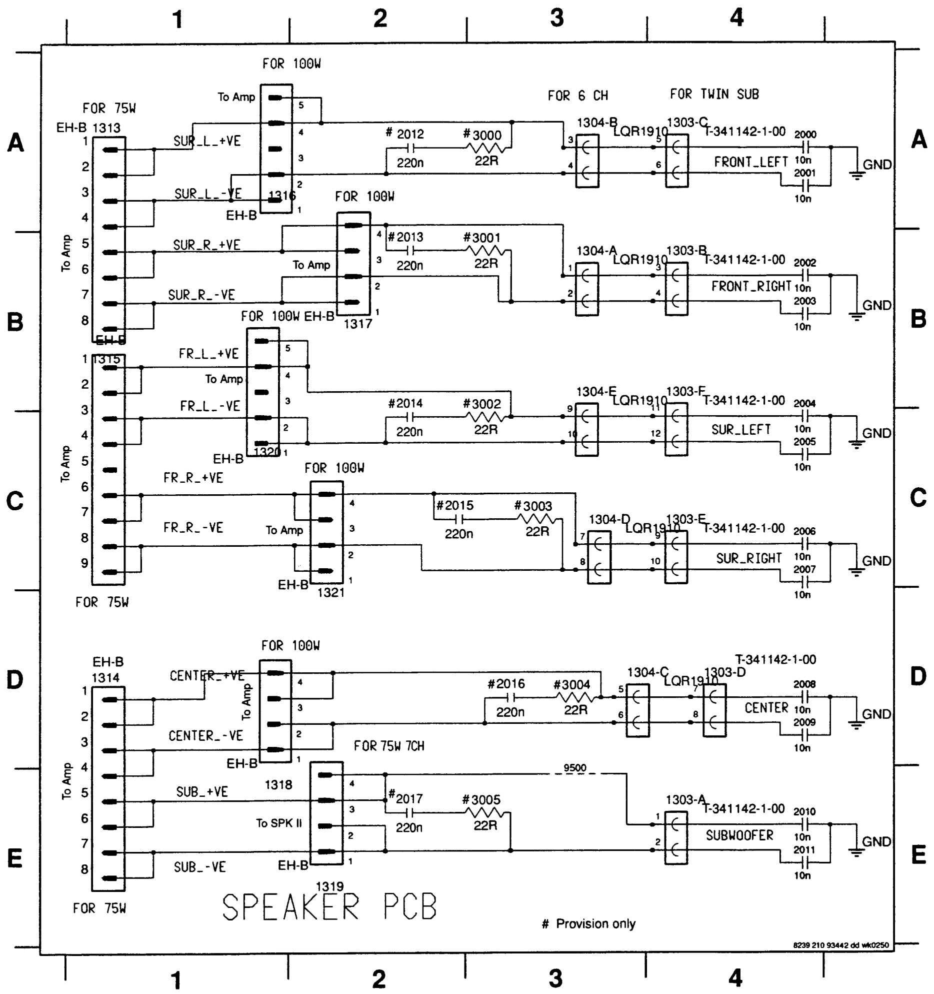
MECHANICAL PARTS LIST & SCREWS

8	3104 211 29861	SPRING 6 CHANNEL
9	-	D2.3 x 8
10	3104 211 29881	EARTH SPRING

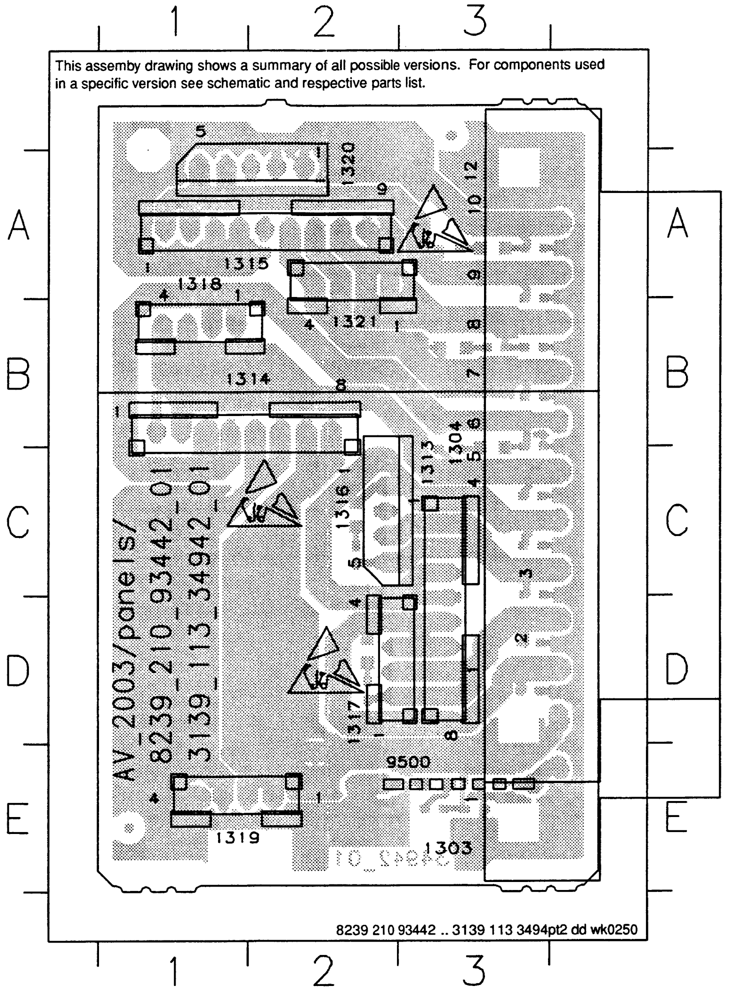
Note: Only the parts mentioned in this list are normal service spare parts.

SPEAKER (SPK I) BOARD - CIRCUIT DIAGRAM

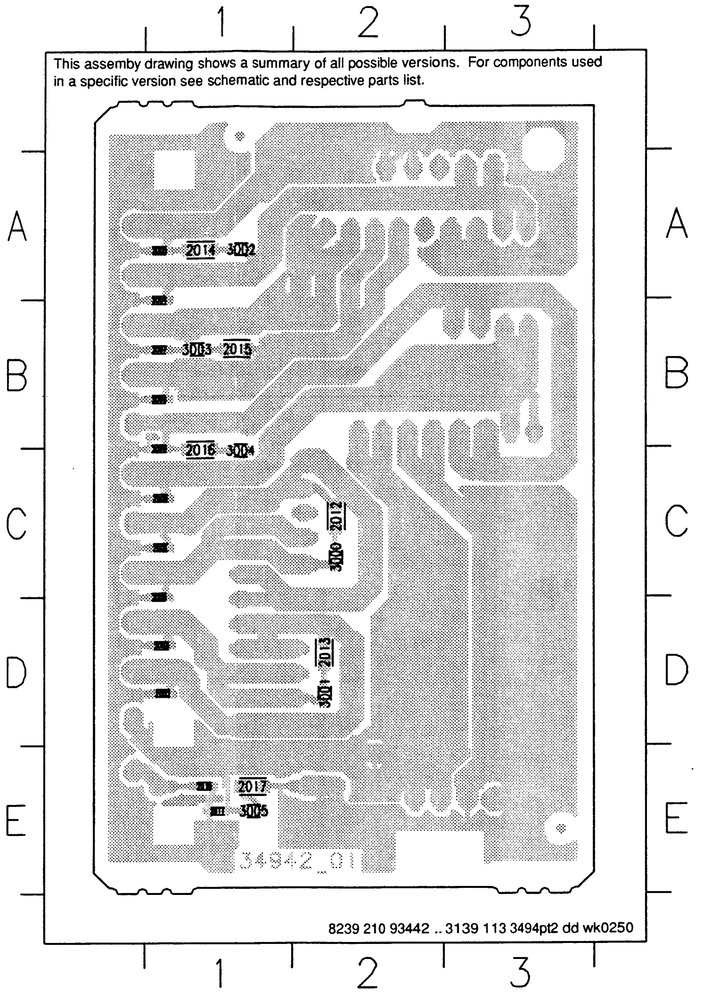
1303-A	E4
1303-B	B4
1303-C	A4
1303-D	D4
1303-E	C4
1303-F	B4
1304-A	B3
1304-B	A3
1304-C	D3
1304-D	C3
1304-E	B3
1313	A1
1314	D1
1315	B1
1316	A2
1317	B2
1318	E2
1319	E2
1320	C1
1321	C2
2000	A4
2001	A4
2002	B4
2003	B4
2004	B4
2005	C4
2006	C4
2007	C4
2008	D4
2009	D4
2010	E4
2011	E4
2012	A2
2013	B2
2014	B2
2015	C2
2016	D3
2017	E2
3000	A3
3001	B3
3002	B3
3003	C3
3004	D3
3005	E3
9500	E3


FOR 100W
FOR 75W
EH-B 1313
To Amp
SUR_L_+VE
SUR_L_-VE
1316
FOR 100W
SUR_R_+VE
SUR_R_-VE
FOR 100W EH-B 1317
FOR 6 CH
FOR TWIN SUB
1304-B LQR1910
1303-C T-341142-1-00
#2012 220n
#3000 22R
FRONT_LEFT
FRONT_RIGHT
GND
#2013 220n
#3001 22R
1304-A
1303-B
EH-B 1315
FR_L_+VE
FR_L_-VE
1320
FR_R_+VE
FR_R_-VE
EH-B 1321
#2014 220n
#3002 22R
1304-E
1303-F
SUR_LEFT
#2015 220n
#3003 22R
1304-D
1303-E
SUR_RIGHT
FOR 75W
EH-B 1314
CENTER_+VE
CENTER_-VE
#2016 220n
#3004 22R
1304-C
1303-D
CENTER
FOR 75W 7CH
1318
9500
#2017 220n
#3005 22R
1303-A
SUBWOOFER
SUB_+VE
SUB_-VE
To SPK II
EH-B 1319
SPEAKER PCB
# Provision only
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 10n
8239 210 93442 dd wk0250

SPEAKER (SPK I) BOARD - COMPONENT & CHIP LAYOUTS


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
1313 1314 1315 1316 1317 1318 1319 1320 1321 1303 1304 9500
AV_2003/panels/
8239_210_93442_01
3139_113_34942_01
8239 210 93442 .. 3139 113 3494pt2 dd wk0250

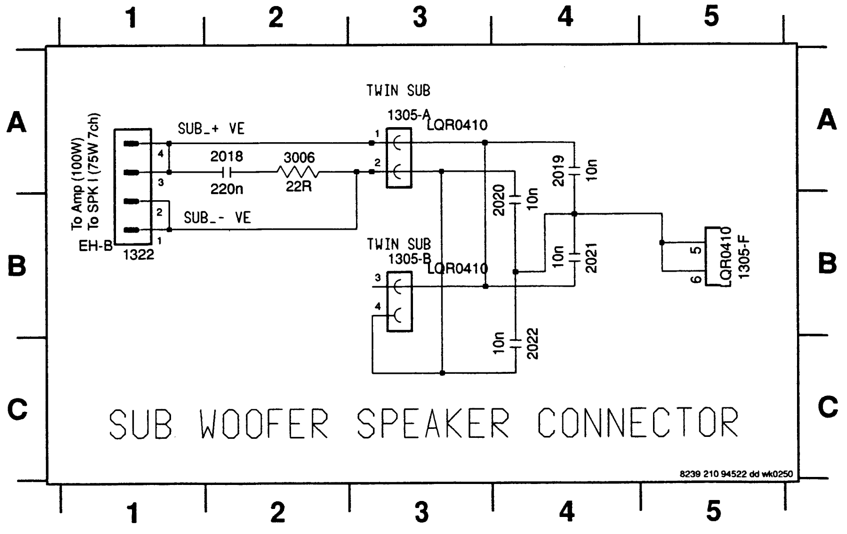
1303	E3
1304	B3
1313	C3
1314	B1
1315	A1
1316	C2
1317	D2
1318	A1
1319	E1
1320	A2
1321	B2
9500	E3


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
2014 3002
3003 2015
2016 3004
2012 3000
2013 3001
2017 3005
34942_01
8239 210 93442 .. 3139 113 3494pt2 dd wk0250

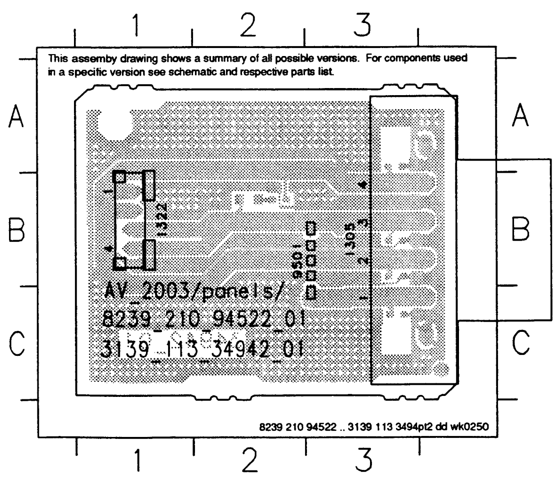
2000	C1
2001	C1
2002	D1
2003	D1
2004	A1
2005	A1
2006	B1
2007	B1
2008	C1
2009	B1
2010	E1
2011	E1
2012	C2
2013	D2
2014	A1
2015	B1
2016	C1
2017	E1
3000	C2
3001	D2
3002	A1
3003	B1
3004	C1
3005	E1

SW-OUT (SPK II) BOARD - CIRCUIT DIAGRAM

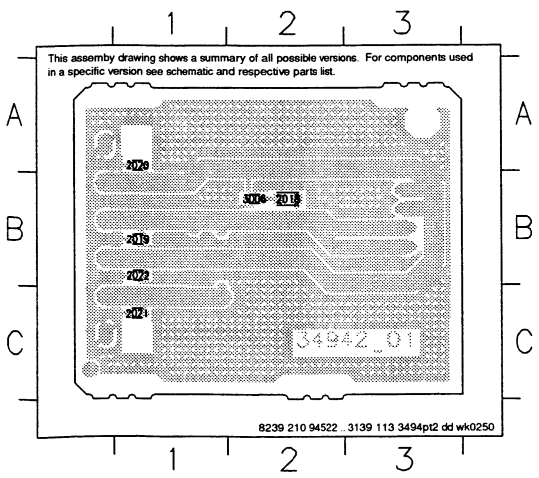
1305-A	A3
1305-B	B3
1305-F	B5
1322	B1
2018	A2
2019	A4
2020	B4
2021	B4
2022	C4
3006	A2


To Amp (100W)
To SPK I (75W 7ch)
EH-B 1322
SUB_+ VE
SUB_- VE
2018 220n
3006 22R
TWIN SUB
1305-A LQR0410
1305-B LQR0410
2019 10n
2020 10n
2021 10n
2022 10n
LQR0410 1305-F
SUB WOOFER SPEAKER CONNECTOR
8239 210 94522 dd wk0250

SW-OUT (SPK II) BOARD - COMPONENT & CHIP LAYOUTS

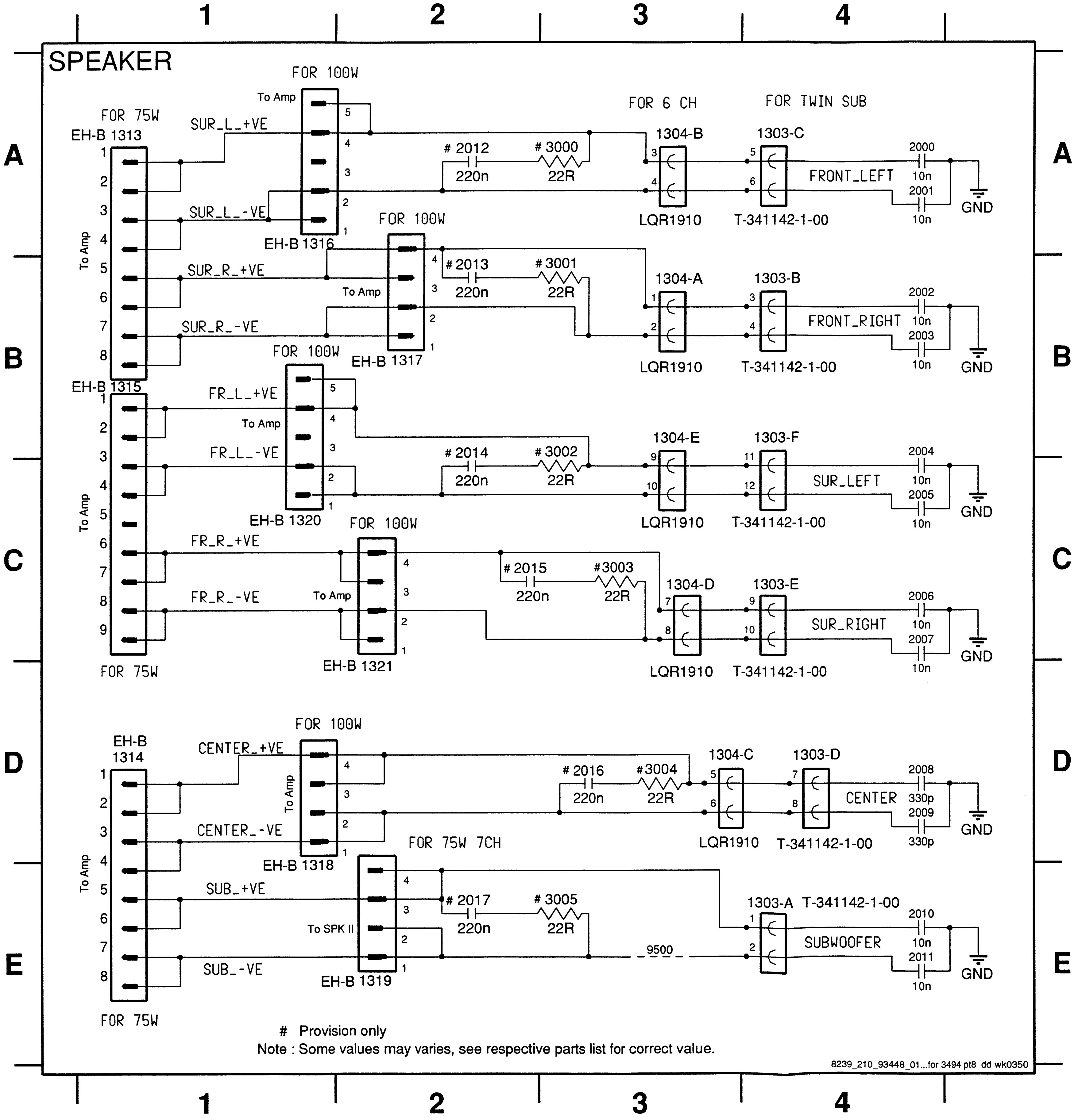

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
1322
9501
1305
AV_2003/panels/
8239_210_94522_01
3139_113_34942_01
8239 210 94522 .. 3139 113 3494pt2 dd wk0250

1305	B3
1322	B1
9501	B2


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.
2020
3006 2018
2019
2022
2021
34942_01
8239 210 94522 .. 3139 113 3494pt2 dd wk0250

2018	B2
2019	B1
2020	A1
2021	C1
2022	B1
3006	B2

SPEAKER (SPK I) BOARD - CIRCUIT DIAGRAM (For pcb layout ...93448)

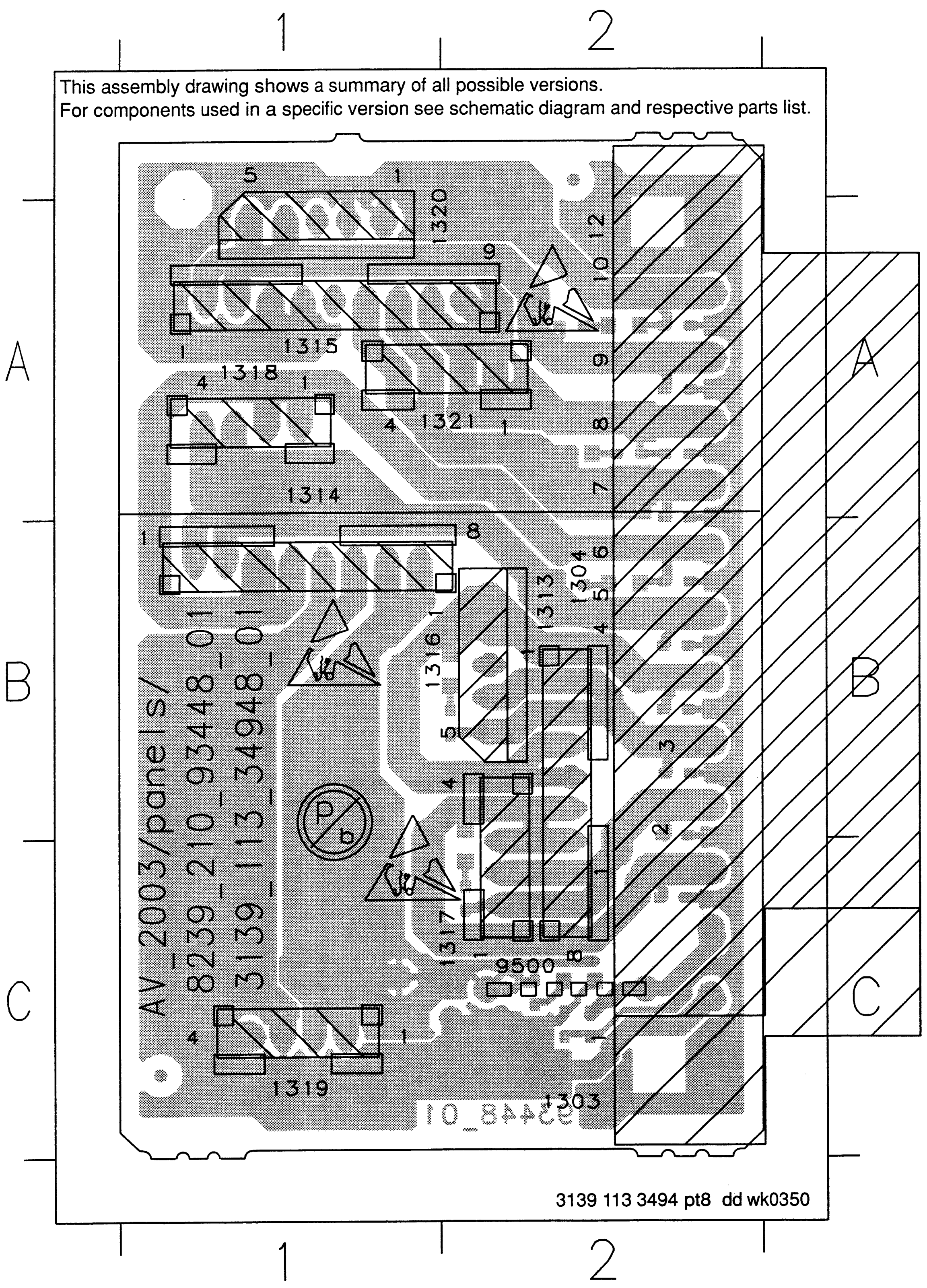

SPEAKER
1
2
3
4
A
B
C
D
E
FOR 75W
EH-B 1313
SUR_L_+VE
SUR_L_-VE
SUR_R_+VE
SUR_R_-VE
To Amp
FOR 100W
EH-B 1316
EH-B 1317
FOR 6 CH
FOR TWIN SUB
# 2012
220n
# 3000
22R
1304-B
LQR1910
1303-C
T-341142-1-00
FRONT_LEFT
2000
10n
2001
10n
GND
# 2013
220n
# 3001
22R
1304-A
LQR1910
1303-B
T-341142-1-00
FRONT_RIGHT
2002
10n
2003
10n
EH-B 1315
FR_L_+VE
FR_L_-VE
FR_R_+VE
FR_R_-VE
EH-B 1320
EH-B 1321
# 2014
220n
# 3002
22R
1304-E
LQR1910
1303-F
T-341142-1-00
SUR_LEFT
2004
10n
2005
10n
# 2015
220n
#3003
22R
1304-D
LQR1910
1303-E
T-341142-1-00
SUR_RIGHT
2006
10n
2007
10n
EH-B 1314
CENTER_+VE
CENTER_-VE
EH-B 1318
# 2016
220n
#3004
22R
1304-C
LQR1910
1303-D
T-341142-1-00
CENTER
2008
330p
2009
330p
SUB_+VE
SUB_-VE
FOR 75W 7CH
To SPK II
EH-B 1319
# 2017
220n
# 3005
22R
9500
1303-A T-341142-1-00
SUBWOOFER
2010
10n
2011
10n

Provision only
Note : Some values may varies, see respective parts list for correct value.

8239_210_93448_01...for 3494 pt8 dd wk0350

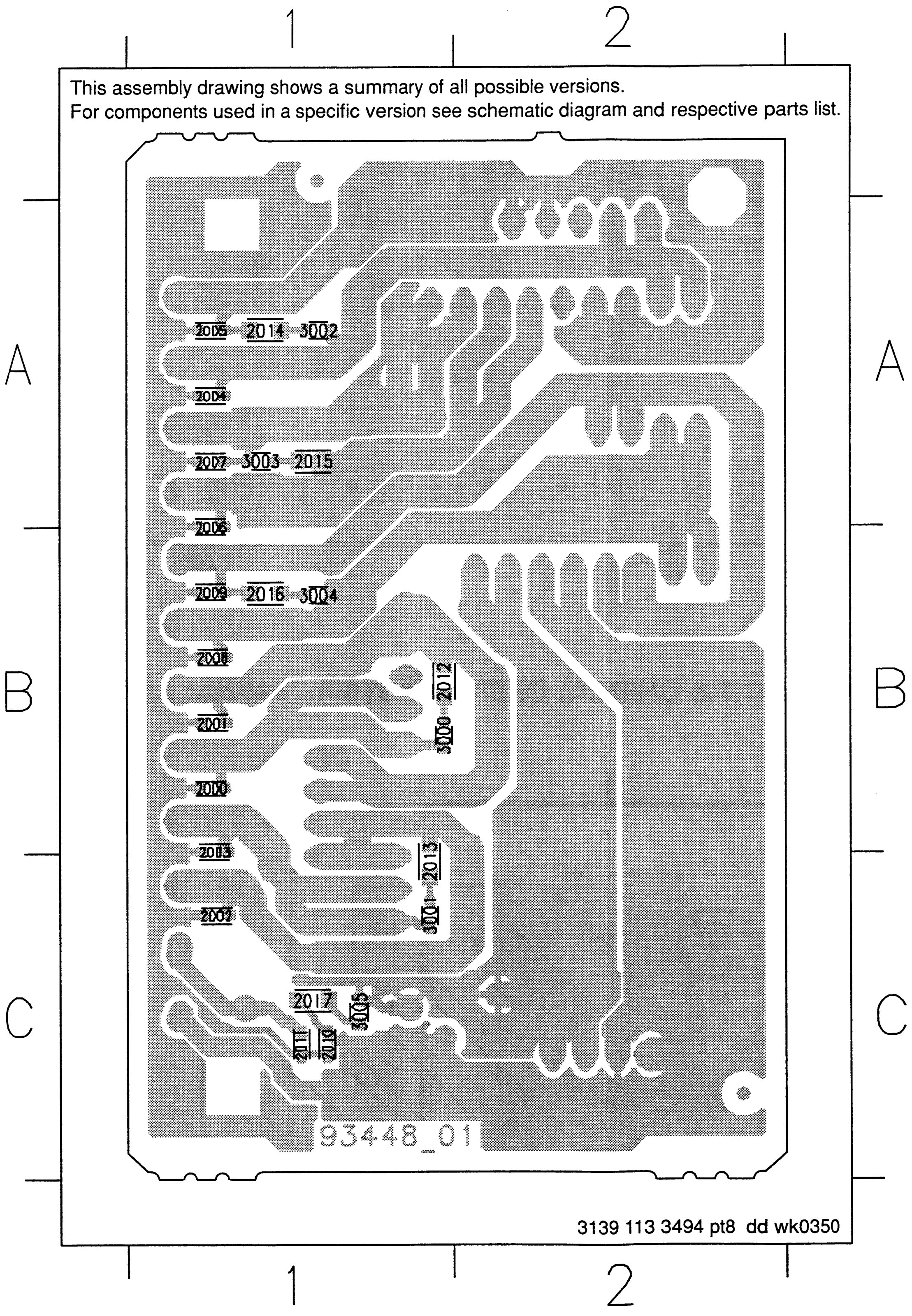
1303-A	E4
1303-B	B4
1303-C	A4
1303-D	D4
1303-E	C4
1303-F	B4
1304-A	B3
1304-B	A3
1304-C	D3
1304-D	C3
1304-E	B3
1313	A1
1314	D1
1315	B1
1316	A2
1317	B2
1318	E2
1319	E2
1320	C1
1321	C2
2000	A4
2001	A4
2002	B4
2003	B4
2004	B4
2005	C4
2006	C4
2007	C4
2008	D4
2009	D4
2010	E4
2011	E4
2012	A2
2013	B2
2014	B2
2015	C2
2016	D3
2017	E2
3000	A3
3001	B3
3002	B3
3003	C3
3004	D3
3005	E3
9500	E3

SPEAKER (SPK I) BOARD - COMPONENT & CHIP LAYOUTS (pcb layout ...93448)


This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

1
2
A
B
C
1315
1318
1321
1314
1320
1313
1304
1316
1317
9500
1319
1303
AV_2003/panels/
8239_210_93448_01
3139_113_34948_01
3139 113 3494 pt8 dd wk0350

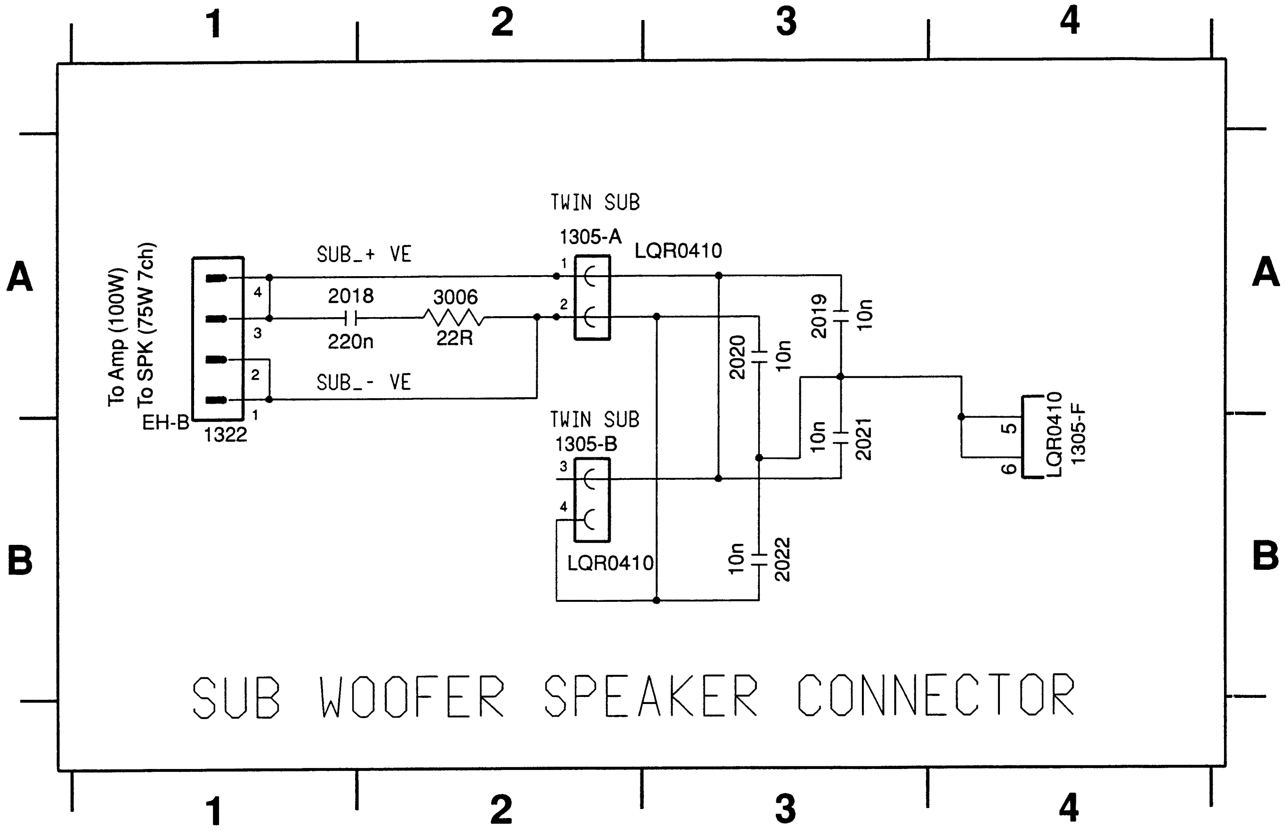
1303	C2
1304	B2
1313	B2
1314	A1
1315	A1
1316	B1
1317	C2
1318	A1
1319	C1
1320	A1
1321	A2
9500	C2


This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

1
2
A
B
C
2005
2014
3002
2004
2007
3003
2015
2006
2009
2016
3004
2008
2012
3000
2001
2000
2003
2013
3001
2002
2017
3005
2011
2010
93448_01
3139 113 3494 pt8 dd wk0350

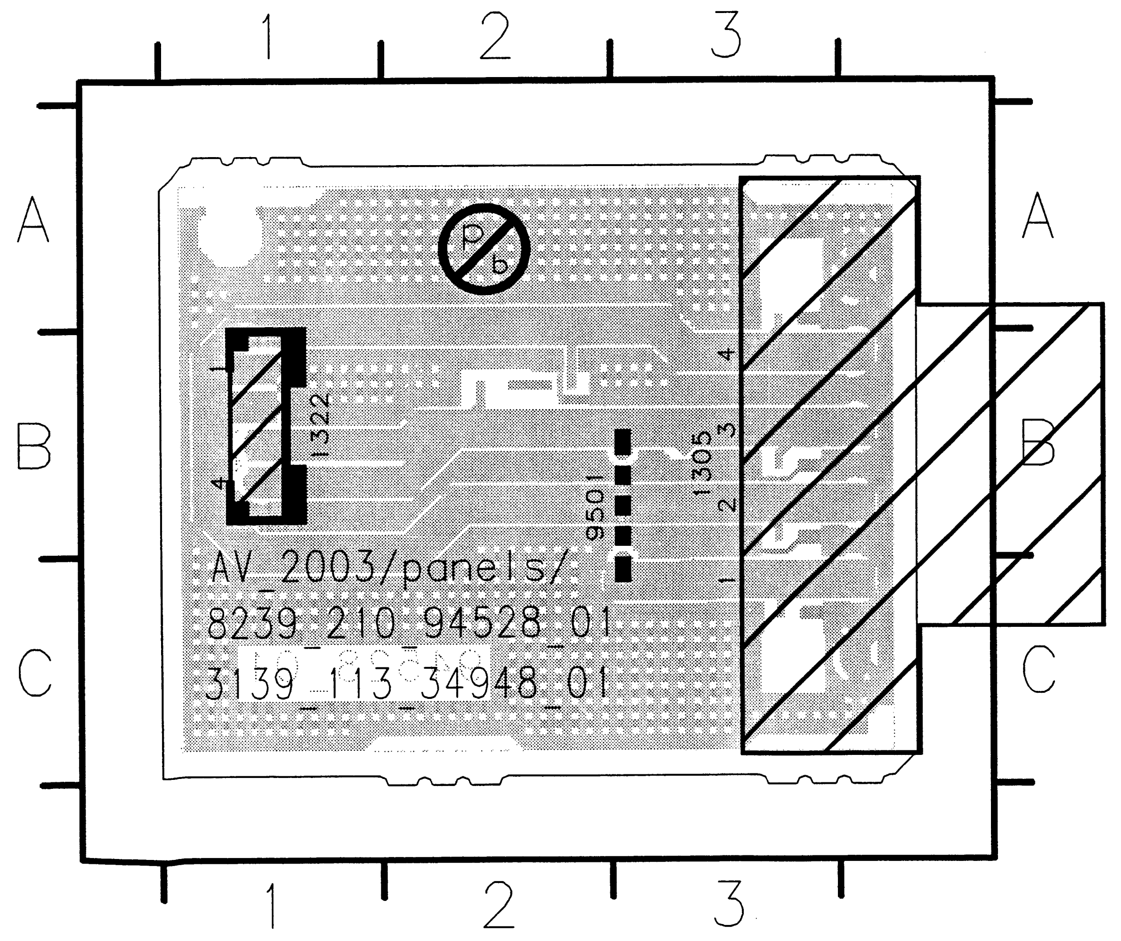
2000	B1
2001	B1
2002	C1
2003	B1
2004	A1
2005	A1
2006	A1
2007	A1
2008	B1
2009	B1
2010	C1
2011	C1
2012	B1
2013	C1
2014	A1
2015	A1
2016	B1
2017	C1
3000	B1
3001	C1
3002	A1
3003	A1
3004	B1
3005	C1

SW-OUT (SPK II) BOARD - CIRCUIT DIAGRAM (For pcb layout ... 94528)

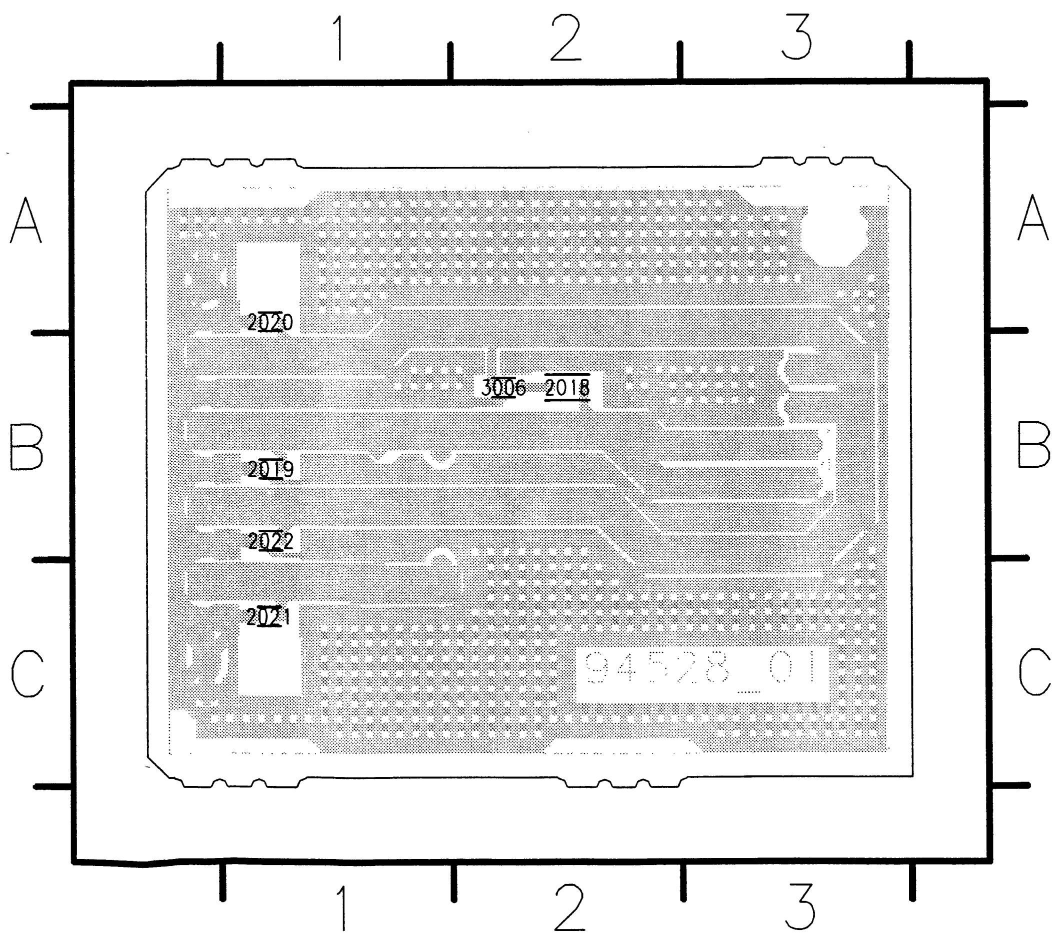

1
2
3
4
A
B
To Amp (100W)
To SPK (75W 7ch)
EH-B
1322
SUB_+ VE
SUB_- VE
2018
220n
3006
22R
TWIN SUB
1305-A
LQR0410
TWIN SUB
1305-B
LQR0410
2019
10n
2020
10n
2021
10n
2022
10n
LQR0410
1305-F
SUB WOOFER SPEAKER CONNECTOR

1305-A	A2
1305-B	B2
1305-F	B4
1322	B1
2018	A1
2019	A3
2020	A3
2021	B3
2022	B3
3006	A2

SW-OUT (SPK II) BOARD - COMPONENT & CHIP LAYOUTS (pcb layout... 94528)


1
2
3
A
B
C
1322
9501
1305
AV_2003/panels/
8239_210_94528_01
3139_113_34948_01

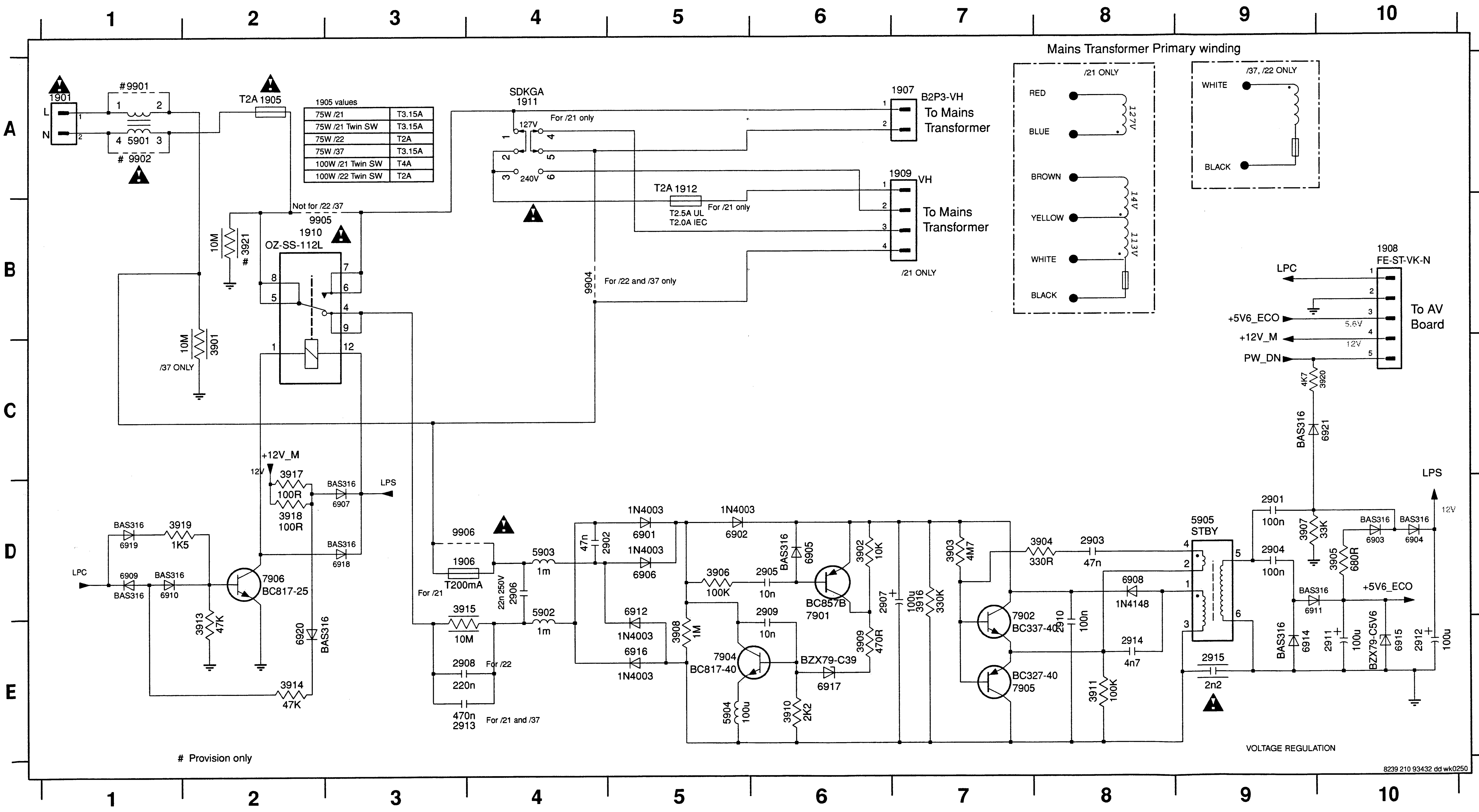
1305	B3
1322	B1
9501	B2


1
2
3
A
B
C
2020
3006
2018
2019
2022
2021
94528_01

2018	B2
2019	B1
2020	A1
2021	C1
2022	B1
3006	B2

MAINS & ECO STBY BOARD - CIRCUIT DIAGRAM

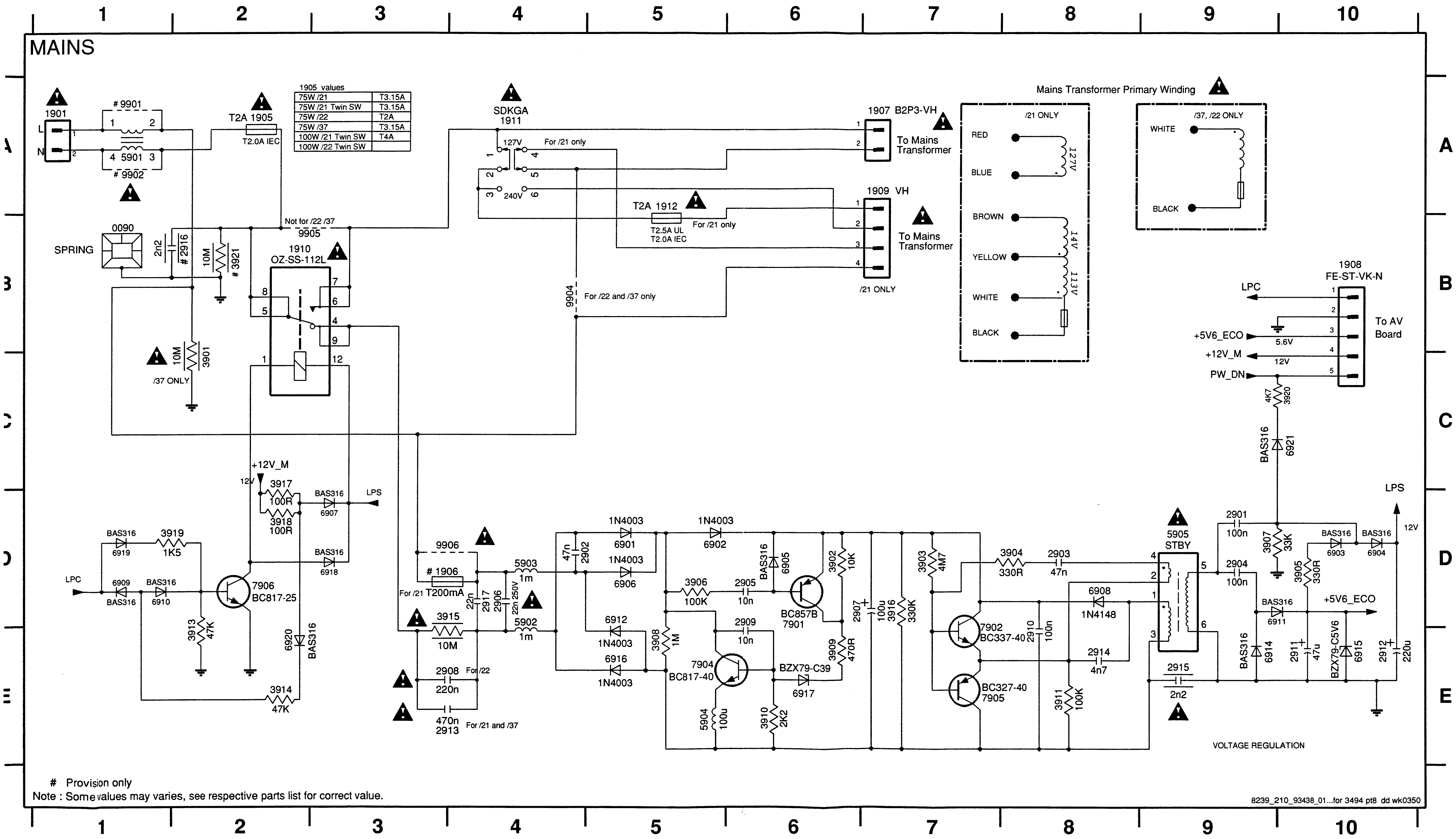
1901 A1	1908 B10	1912 A5	2904 D9	2908 E3	2912 E10	3901 C2	3905 D10	3909 E6	3914 E2	3918 D2	5901 A1	5905 D9	6904 D10	6908 D8	6912 D5	6917 E6	6921 C10	7905 E7	9904 B4
1905 A2	1909 A6	2901 D9	2905 D6	2909 D6	2913 E3	3902 D6	3906 D5	3910 E6	3915 D3	3919 D1	5902 D4	6901 D5	6905 D6	6909 D1	6914 E9	6918 D3	7901 D6	7906 D2	9905 B2
1906 D3	1910 B2	2902 D4	2906 D4	2910 E8	2914 E8	3903 D7	3907 D9	3911 E8	3916 D7	3920 C10	5903 D4	6902 D5	6906 D5	6910 D1	6915 E10	6919 D1	7902 E7	9901 A1	9906 D3
1907 A7	1911 A4	2903 D8	2907 D6	2911 E10	2915 E9	3904 D8	3908 E5	3913 E2	3917 C2	3921 B2	5904 E5	6903 D10	6907 D3	6911 D9	6916 E5	6920 E2	7904 E5	9902 A1	


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
1901
L
N
#9901
5901
# 9902
T2A 1905
SDKGA
1911
127V
For /21 only
240V
T2A 1912
T2.5A UL
T2.0A IEC
For /21 only
1907
B2P3-VH
To Mains Transformer
1909
VH
To Mains Transformer
/21 ONLY
Mains Transformer Primary winding
/21 ONLY
RED
BLUE
127V
BROWN
YELLOW
14V
113V
WHITE
BLACK
/37, /22 ONLY
WHITE
BLACK
Not for /22 /37
9905
1910
OZ-SS-112L
10M
3921
#
10M
3901
/37 ONLY
9904
For /22 and /37 only
1908
FE-ST-VK-N
LPC
+5V6_ECO
5.6V
+12V_M
12V
PW_DN
To AV Board
4K7
3920
BAS316
6921
LPS
12V
+12V_M
12V
3917
100R
3918
100R
BAS316
6907
BAS316
6918
LPS
BAS316
6919
3919
1K5
LPC
6909
BAS316
BAS316
6910
7906
BC817-25
3913
47K
6920
BAS316
3914
47K
9906
1906
T200mA
For /21
3915
10M
2908
For /22
220n
470n
2913
For /21 and /37
22n 250V
2906
5903
1m
5902
1m
47n
2902
1N4003
6901
1N4003
6906
6912
1N4003
6916
1N4003
1N4003
6902
BAS316
6905
3906
100K
2905
10n
BC857B
7901
3902
10K
2909
10n
3908
1M
7904
BC817-40
BZX79-C39
6917
5904
100u
3910
2K2
3909
470R
2907
100u
3916
330K
3903
4M7
3904
330R
2903
47n
7902
BC337-40
BC327-40
7905
2910
100n
6908
1N4148
2914
4n7
3911
100K
5905
STBY
2915
2n2
2901
100n
3907
33K
2904
100n
BAS316
6903
BAS316
6904
3905
680R
BAS316
6911
+5V6_ECO
BAS316
6914
2911
100u
BZX79-C5V6
6915
2912
100u
VOLTAGE REGULATION
# Provision only
8239 210 93432 dd wk0250

1905 values	
75W /21	T3.15A
75W /21 Twin SW	T3.15A
75W /22	T2A
75W /37	T3.15A
100W /21 Twin SW	T4A
100W /22 Twin SW	T2A

MAINS & ECO STBY BOARD - CIRCUIT DIAGRAM (For pcb layout ... 93438)

0090	B1
1901	A1
1905	A2
1906	D3
1907	A7
1908	B10
1909	A7
1910	B2
1911	A4
1912	A5
2901	D9
2902	D4
2903	D8
2904	D9
2905	D6
2906	D4
2907	D6
2908	E3
2909	D6
2910	E8
2911	E10
2912	E10
2913	E3
2914	E8
2915	E9
2916	B2
2917	D4
3901	C2
3902	D6
3903	D7
3904	D8
3905	D10
3906	D5
3907	D9
3908	E5
3909	E6
3910	E6
3911	E8
3913	E2
3914	E2
3915	D4
3916	D7
3917	C2
3918	D2
3919	D2
3920	C10
3921	B2
5901	A1
5902	D4
5903	D4
5904	E5
5905	D9
6901	D5
6902	D5
6903	D10
6904	D10
6905	D6
6906	D5
6907	D3
6908	D8
6909	D1
6910	D1
6911	D9
6912	D5
6914	E9
6915	E10
6916	E5
6917	E6
6918	D3
6919	D1
6920	E2
6921	C10
7901	D6
7902	E7
7904	E5
7905	E7
7906	D2
9901	A1
9902	A1
9904	B4
9905	B2
9906	D3


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
MAINS
1901
L
N
1
2
# 9901
1
2
4 5901 3
# 9902
T2A 1905
T2.0A IEC
SDKGA
1911
127V
For /21 only
240V
1
2
3
4
5
6
T2A 1912
T2.5A UL
T2.0A IEC
For /21 only
0090
SPRING
2n2
# 2916
10M
# 3921
Not for /22 /37
9905
1910
OZ-SS-112L
8
5
7
6
4
9
1
12
10M
3901
/37 ONLY
9904
For /22 and /37 only
1907 B2P3-VH
To Mains Transformer
1909 VH
To Mains Transformer
/21 ONLY
Mains Transformer Primary Winding
/21 ONLY
RED
BLUE
127V
BROWN
YELLOW
WHITE
BLACK
14V
113V
/37, /22 ONLY
WHITE
BLACK
1908
FE-ST-VK-N
LPC
+5V6_ECO
5.6V
+12V_M
12V
PW_DN
To AV Board
4K7
3920
BAS316
6921
+12V_M
12V
3917
100R
3918
100R
BAS316
6907
LPS
BAS316
6918
BAS316
6919
3919
1K5
LPC
6909
BAS316
BAS316
6910
7906
BC817-25
3913
47K
6920
BAS316
3914
47K
9906
# 1906
For /21 T200mA
3915
10M
2908 For /22
220n
470n
2913
For /21 and /37
22n
2917
2906
22n 250V
5903
1m
5902
1m
47n
2902
1N4003
6901
1N4003
6906
6912
1N4003
6916
1N4003
1N4003
6902
3908
1M
3906
100K
2905
10n
BAS316
6905
BC857B
7901
3902
10K
2909
10n
7904
BC817-40
BZX79-C39
6917
3909
470R
5904
100u
3910
2K2
2907
100u
3916
330K
3903
4M7
7902
BC337-40
BC327-40
7905
2910
100n
3904
330R
2903
47n
6908
1N4148
2914
4n7
3911
100K
5905
STBY
2915
2n2
2901
100n
2904
100n
3907
33K
3905
330R
BAS316
6903
BAS316
6904
12V
LPS
BAS316
6911
+5V6_ECO
BAS316
6914
2911
47u
BZX79-C5V6
6915
2912
220u
VOLTAGE REGULATION

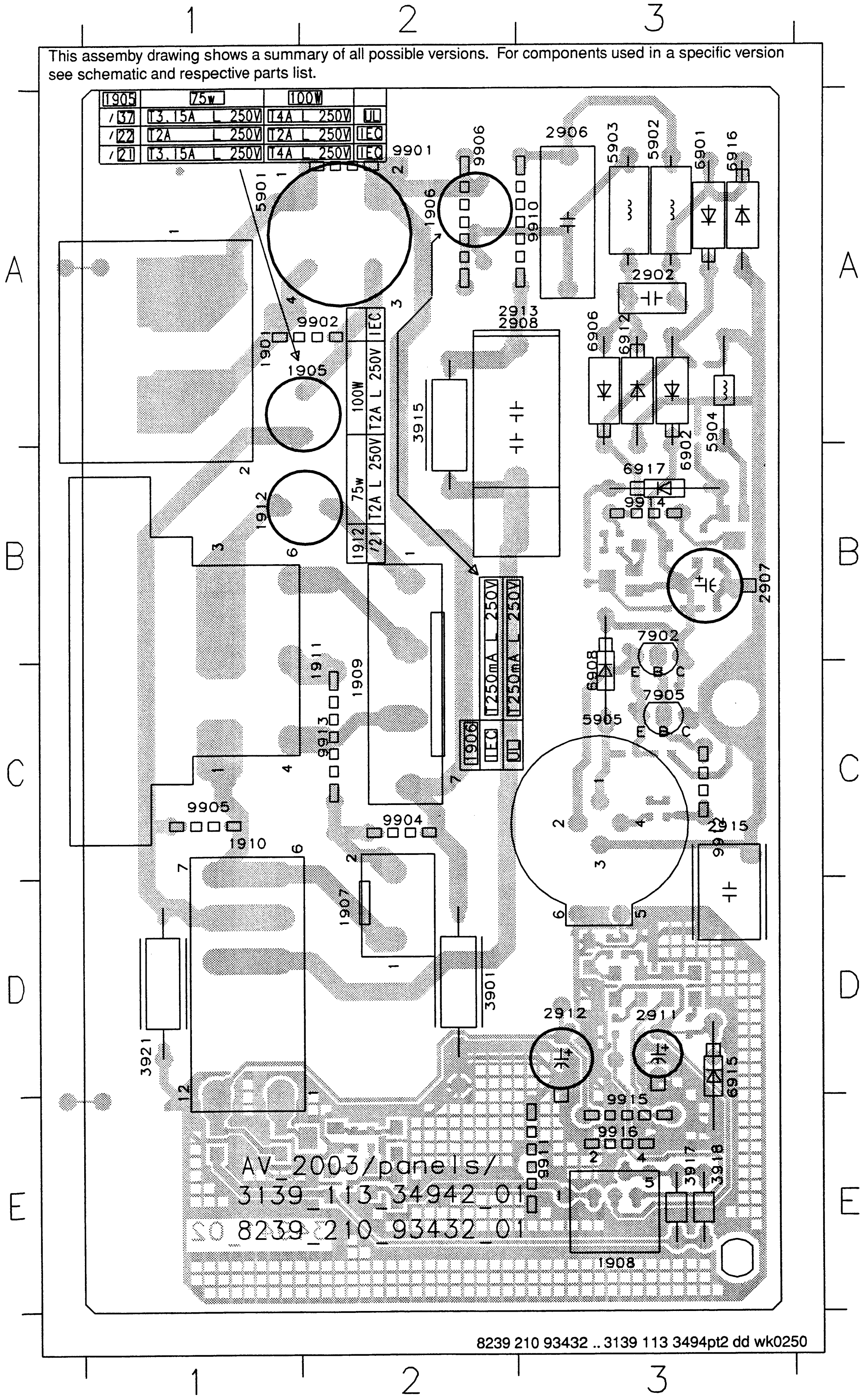
1905 values

75W /21	T3.15A
75W /21 Twin SW	T3.15A
75W /22	T2A
75W /37	T3.15A
100W /21 Twin SW	T4A
100W /22 Twin SW	

# Provision only
Note : Some values may varies, see respective parts list for correct value.

8239_210_93438_01...for 3494 pt8 dd wk0350

MAINS & ECO STBY BOARD - COMPONENT LAYOUT

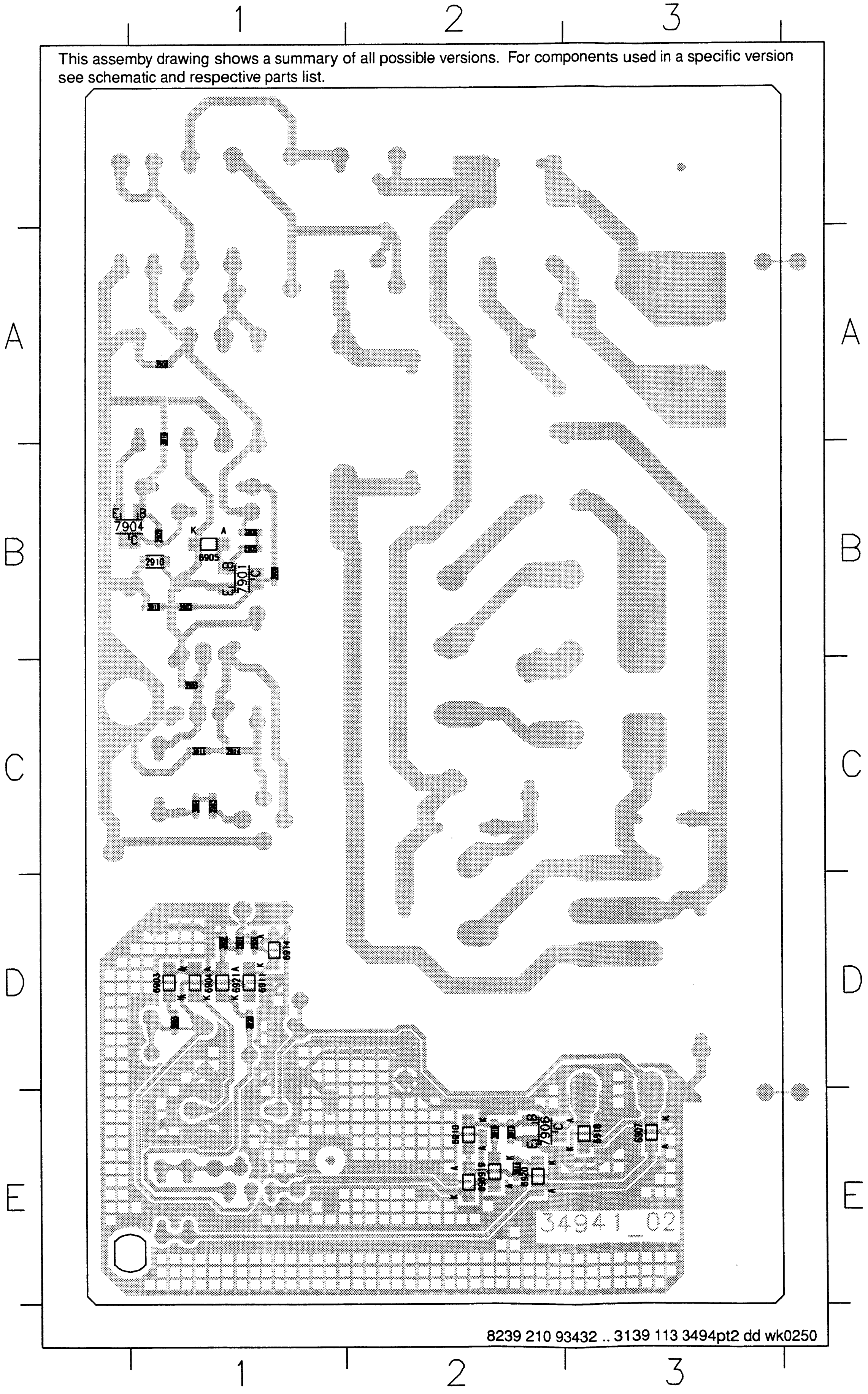

1
2
3
A
B
C
D
E
1905
75w
100W
/37
T3.15A L 250V
T4A L 250V
UL
/22
T2A L 250V
T2A L 250V
IEC
/21
T3.15A L 250V
T4A L 250V
IEC
9901
9906
2906
5903
5902
6901
6916
5901
1906
9910
2902
9902
1901
1905
2913
2908
6906
6912
3915
100W
T2A L 250V
IEC
75w
T2A L 250V
1912
/21
5904
6902
6917
9914
2907
1912
7902
T250mA L 250V
T250mA L 250V
1906
IEC
UL
6908
7905
5905
1911
1909
9913
9905
1910
9904
2915
1907
3901
3921
2912
2911
6915
9915
9916
9911
3917
3918
1908
AV_2003/panels/
3139_113_34942_01
8239_210_93432_01

This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.

8239 210 93432 .. 3139 113 3494pt2 dd wk0250

1901	A1
1905	A2
1906	A2
1907	D2
1908	E3
1909	C2
1910	C1
1911	B2
1912	B1
2902	A3
2906	A3
2907	B3
2908	A3
2911	D3
2912	D3
2913	A3
2915	C3
3901	D2
3915	A2
3917	E3
3918	E3
3921	D1
5901	A1
5902	A3
5903	A3
5904	A3
5905	C3
6901	A3
6902	B3
6906	A3
6908	C3
6912	A3
6915	D3
6916	A3
6917	B3
7902	B3
7905	C3
9901	A2
9902	A2
9904	C2
9905	C1
9906	A2
9910	A3
9911	E3
9912	C3
9913	C2
9914	B3
9915	E3
9916	E3

MAINS & ECO STBY BOARD - CHIP LAYOUT

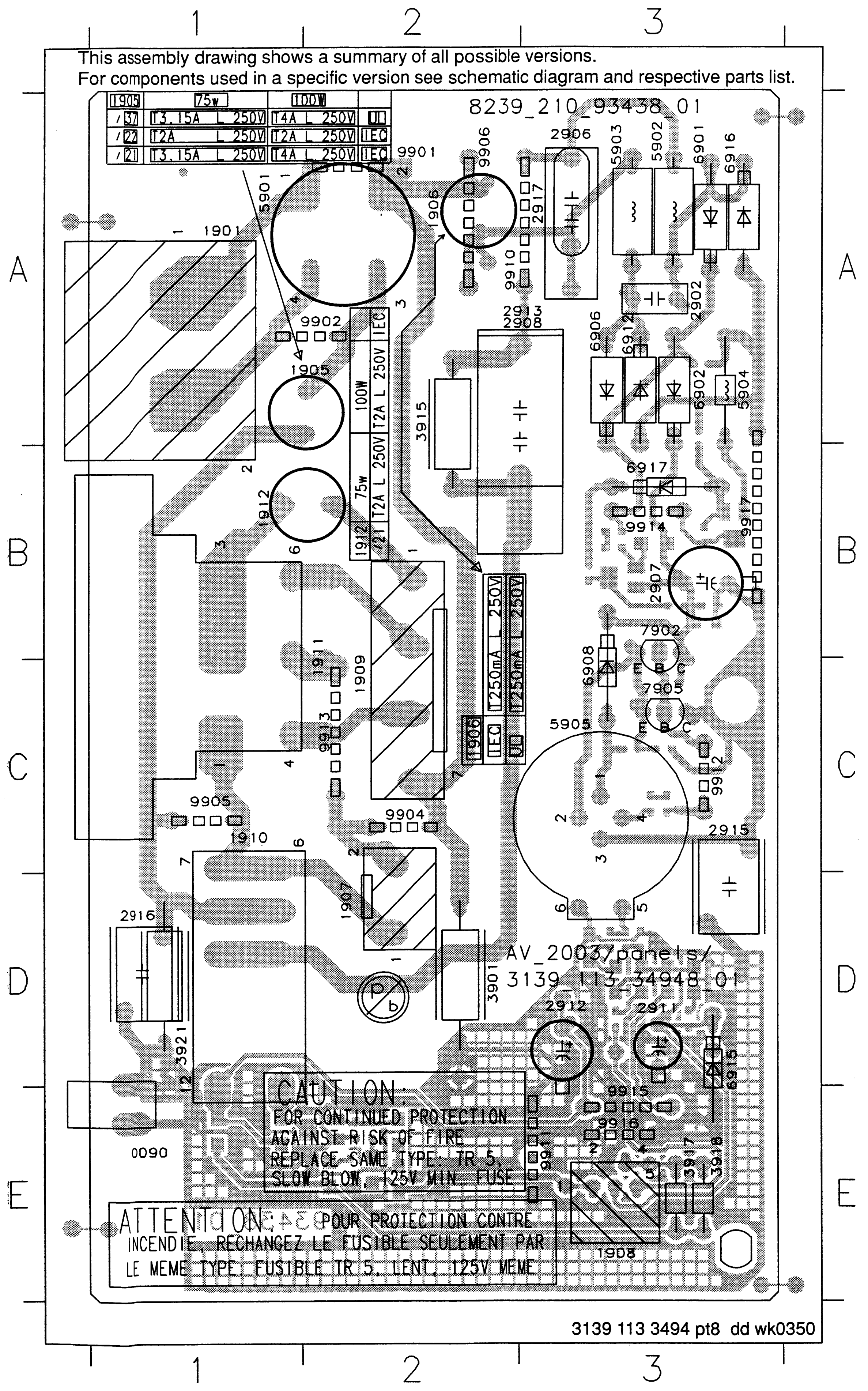

1
2
3
A
B
C
D
E
7904
2910
6905
7901
34941_02

This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.

8239 210 93432 .. 3139 113 3494pt2 dd wk0250

2901	D1
2903	C1
2904	D1
2905	B1
2909	B1
2910	B1
2914	C1
3902	B1
3903	C1
3904	C1
3905	D1
3906	B1
3907	D1
3908	A1
3909	B1
3910	A1
3911	C1
3913	E2
3914	E2
3916	B1
3919	E2
3920	D1
6903	D1
6904	D1
6905	B1
6907	E3
6909	E2
6910	E2
6911	D1
6914	D1
6918	E3
6919	E2
6920	E2
6921	D1
7901	B1
7904	B1
7906	E2

MAINS & ECO STBY BOARD - COMPONENT LAYOUT (pcb layout ... 93438)



This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

CAUTION:
FOR CONTINUED PROTECTION AGAINST RISK OF FIRE REPLACE SAME TYPE: TR 5. SLOW BLOW, 125V MIN. FUSE

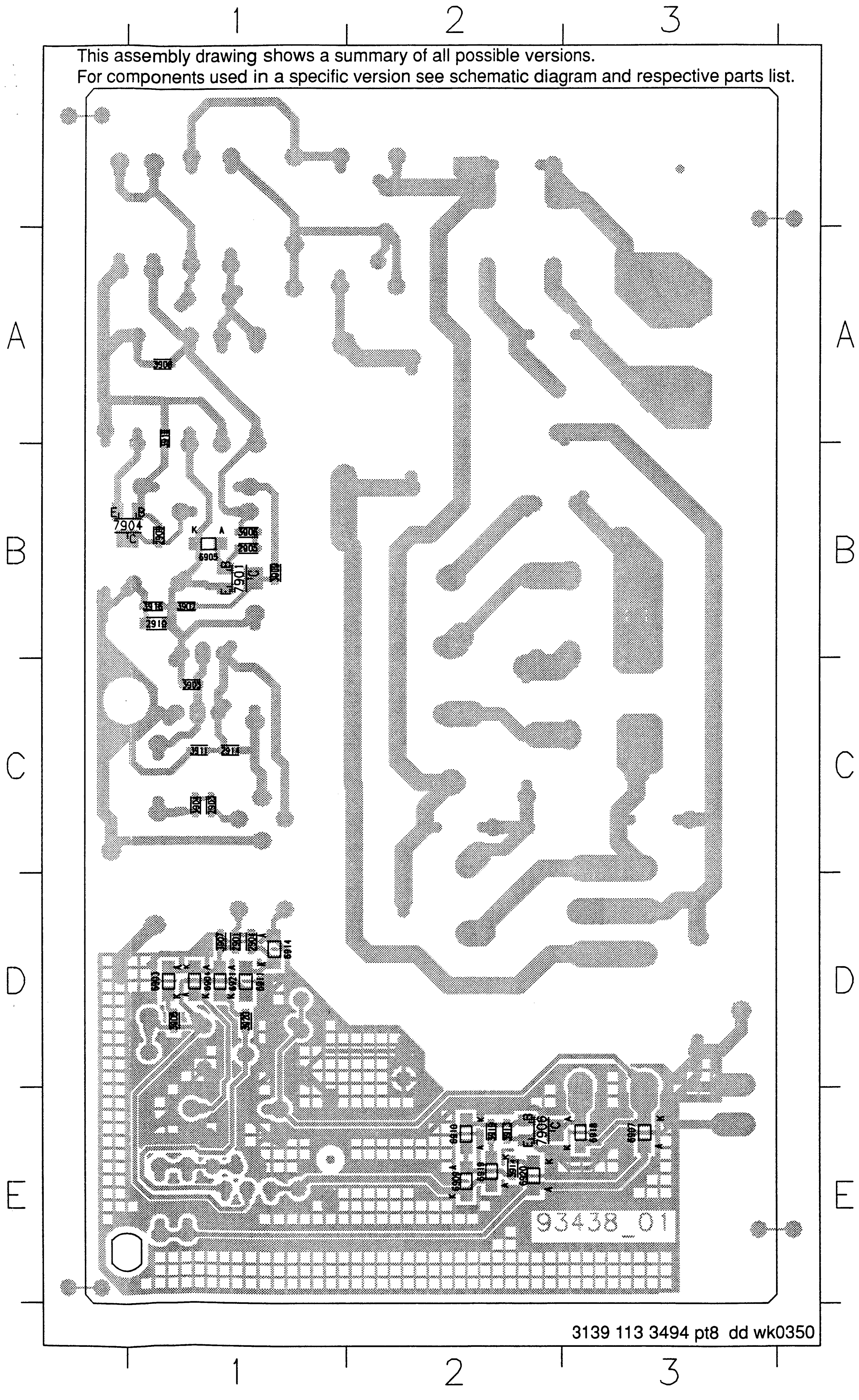
ATTENTION: POUR PROTECTION CONTRE INCENDIE, RECHANGEZ LE FUSIBLE SEULEMENT PAR LE MEME TYPE: FUSIBLE TR 5. LENT, 125V MEME

3139 113 3494 pt8 dd wk0350

1
2
3
A
B
C
D
E
1905
75w
100W
/37
T3.15A L 250V
T4A L 250V
UL
/22
T2A L 250V
T2A L 250V
IEC
/21
T3.15A L 250V
T4A L 250V
IEC
8239_210_93438_01
9901
9906
2906
5903
5902
6901
6916
5901
1901
1906
2917
9910
9902
1905
1912
100W
T2A L 250V
75w
T2A L 250V
IEC
2913
2908
3915
6906
6912
2902
6902
5904
6917
9914
9917
2907
7902
6908
7905
T250mA L 250V
T250mA L 250V
1906
IEC
UL
1911
1909
9913
5905
9912
9905
9904
1910
2915
1907
2916
3921
3901
AV_2003/panels/
3139_113_34948_01
2912
2911
6915
9915
9916
9911
3917
3918
1908
0090

0090	E1
1901	A1
1905	A2
1906	A2
1907	D2
1908	E3
1909	C2
1910	C1
1911	B2
1912	B1
2902	A3
2906	A3
2907	B3
2908	A3
2911	D3
2912	D3
2913	A3
2915	C3
2916	D1
2917	A3
3901	D2
3915	A2
3917	E3
3918	E3
3921	D1
5901	A1
5902	A3
5903	A3
5904	A3
5905	C3
6901	A3
6902	A3
6906	A3
6908	C3
6912	A3
6915	D3
6916	A3
6917	B3
7902	B3
7905	C3
9901	A2
9902	A2
9904	C2
9905	C1
9906	A2
9910	A2
9911	E3
9912	C3
9913	C2
9914	B3
9915	E3
9916	E3
9917	B3

MAINS & ECO STBY BOARD - CHIP LAYOUT (pcb layout ... 93438)



This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

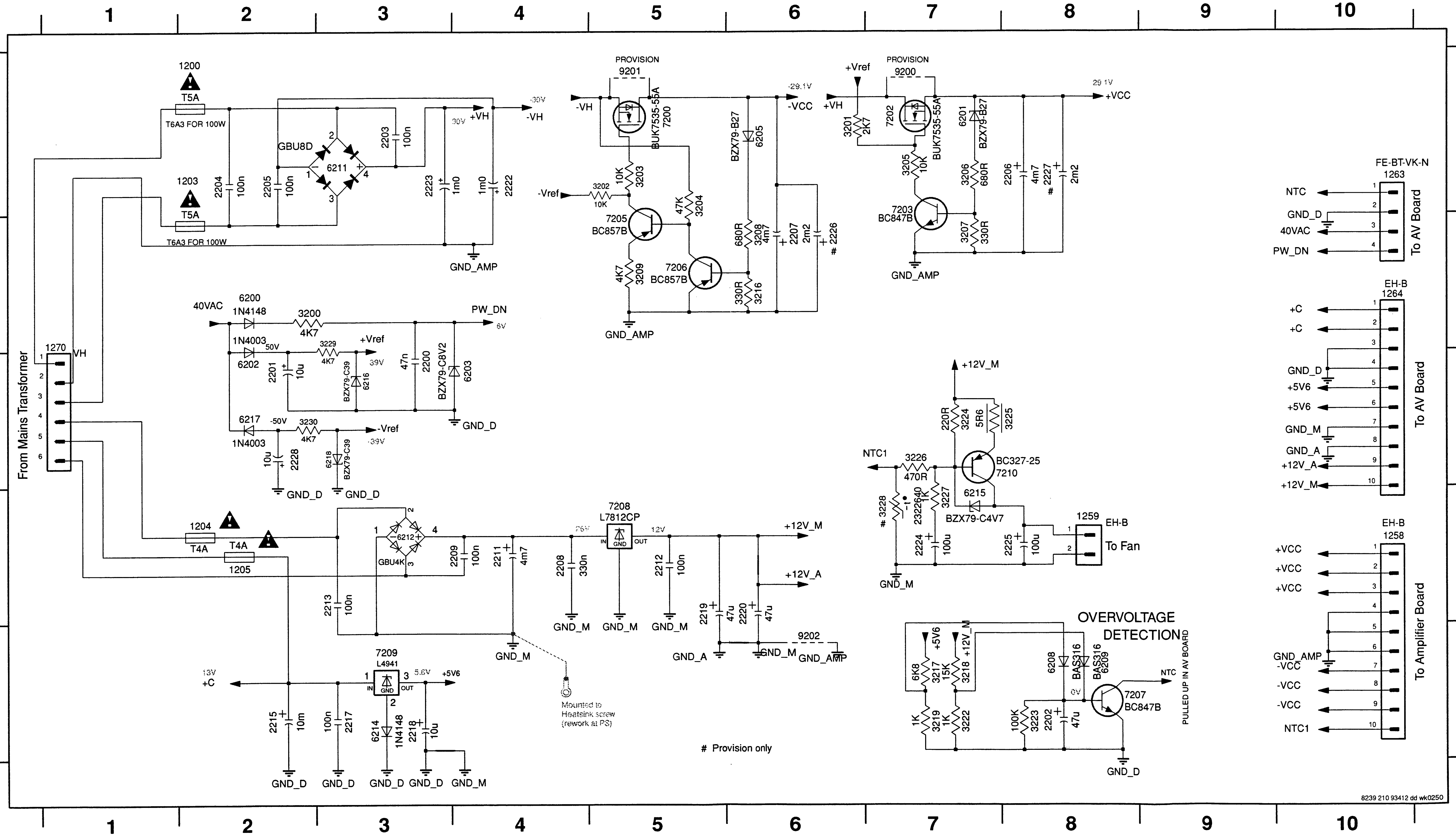
3139 113 3494 pt8 dd wk0350

1
2
3
A
B
C
D
E
7904
7901
6905
93438_01

2901	D1
2903	C1
2904	D1
2905	B1
2909	B1
2910	B1
2914	C1
3902	B1
3903	C1
3904	C1
3905	D1
3906	B1
3907	D1
3908	A1
3909	B1
3910	A1
3911	C1
3913	E2
3914	E2
3916	B1
3919	E2
3920	D1
6903	D1
6904	D1
6905	B1
6907	E3
6909	E2
6910	E2
6911	D1
6914	D1
6918	E3
6919	E2
6920	E2
6921	D1
7901	B1
7904	B1
7906	E2

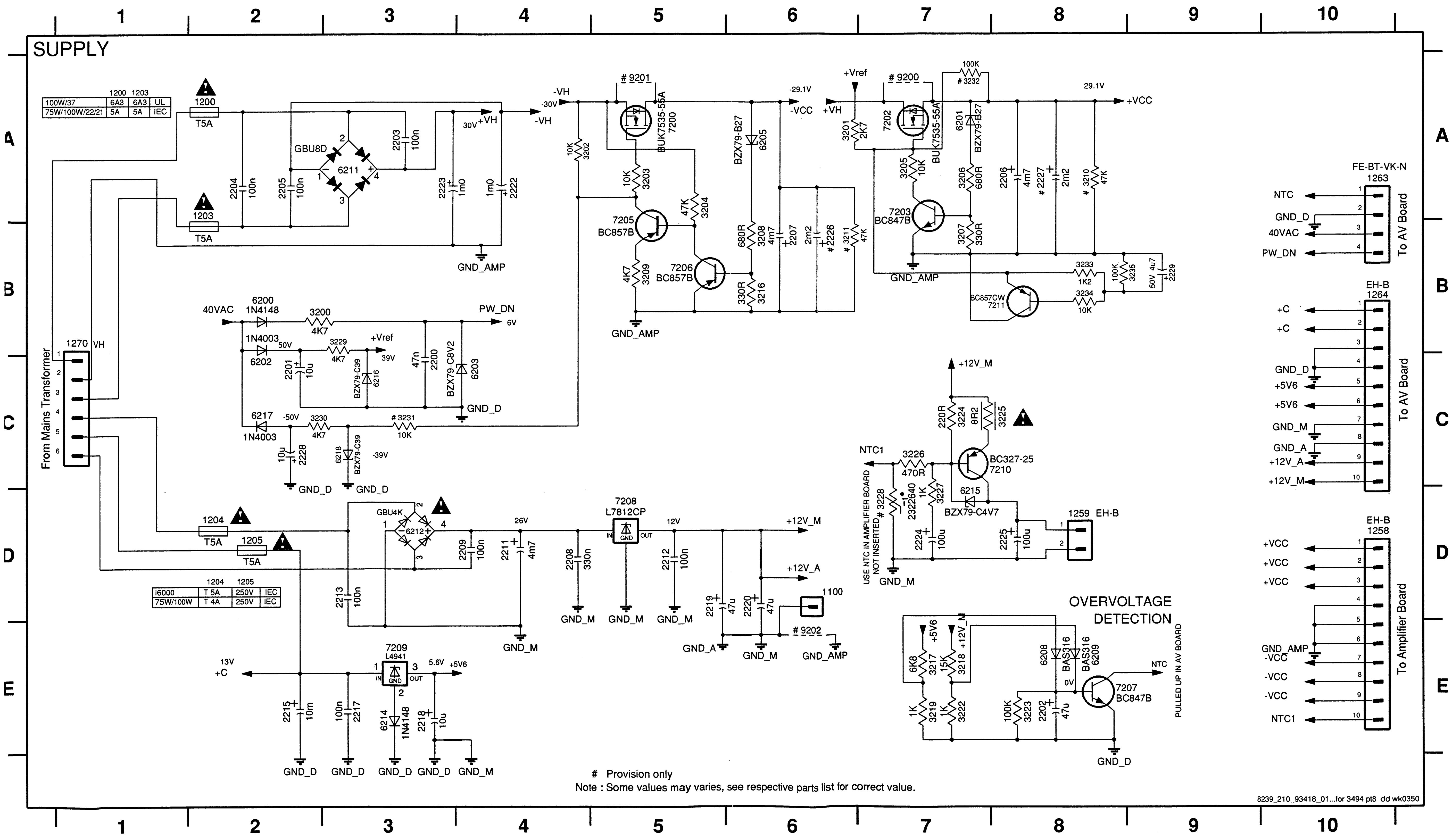
SUPPLY BOARD - CIRCUIT DIAGRAM

1200 A2	1258 D10	1270 B1	2203 A3	2207 B6	2212 D5	2218 E3	2223 A3	2227 A8	3202 A5	3206 A7	3216 B6	3222 E7	3226 C7	3230 C2	6203 C4	6211 A3	6216 C3	7202 A7	7207 E8	9200 A7
1203 A2	1259 D8	2200 C3	2204 A2	2208 D4	2213 D3	2219 D5	2224 D7	2228 C2	3203 A5	3207 B7	3217 E7	3223 E8	3227 D7	6200 B2	6205 A6	6212 D3	6217 C2	7203 A7	7208 D5	9201 A5
1204 D2	1263 A10	2201 C2	2205 A2	2209 D4	2215 E2	2220 D6	2225 D8	3200 B2	3204 A5	3208 B6	3218 E7	3224 C7	3228 D7	6201 A7	6208 E8	6214 E3	6218 C3	7205 B5	7209 E3	9202 E6
1205 D2	1264 B10	2202 E8	2206 A8	2211 D4	2217 E3	2222 A4	2226 B6	3201 A6	3205 A7	3209 B5	3219 E7	3225 C8	3229 B3	6202 C2	6209 E8	6215 D7	7200 A5	7206 B5	7210 C7	


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
From Mains Transformer
1270
VH
1200
T5A
T6A3 FOR 100W
1203
T5A
T6A3 FOR 100W
2204 100n
2205 100n
GBU8D
6211
2203 100n
2223 1m0
1m0 2222
+VH
30V
-30V
-VH
GND_AMP
PROVISION
9201
-VH
BUK7535-55A
7200
-Vref
3202
10K
10K 3203
7205
BC857B
47K 3204
4K7 3209
7206
BC857B
GND_AMP
BZX79-B27
6205
680R 3208
4m7 2207
2m2 2226
#
330R 3216
-29.1V
-VCC
+VH
+Vref
PROVISION
9200
3201 2K7
7202
BUK7535-55A
6201 BZX79-B27
3205 10K
3206 680R
7203
BC847B
3207 330R
GND_AMP
2206 4m7
2227 2m2
#
29.1V
+VCC
40VAC
6200
1N4148
3200
4K7
PW_DN
6V
1N4003
50V
6202
3229
4K7
+Vref
39V
2201 10u
BZX79-C39
6216
47n 2200
BZX79-C8V2
6203
GND_D
6217
1N4003
-50V
3230
4K7
-Vref
-39V
10u 2228
6218 BZX79-C39
GND_D
GND_D
1204
T4A
T4A
1205
6212
GBU4K
2209 100n
2211 4m7
2213 100n
GND_M
Mounted to Heatsink screw (rework at PS)
7208
L7812CP
IN GND OUT
16V
12V
2208 330n
2212 100n
GND_M
GND_M
GND_M
+12V_M
+12V_A
2219 47u
2220 47u
9202
GND_A
GND_M
GND_AMP
13V
+C
2215 10m
100n 2217
7209
L4941
IN GND OUT
5.6V
+5V6
6214 1N4148
2218 10u
GND_D
GND_D
GND_D
GND_D
GND_M
# Provision only
+12V_M
220R 3224
5R6 3225
NTC1
3226
470R
1K 3227
# 3228
2322640
BC327-25
7210
6215
BZX79-C4V7
2224 100u
2225 100u
GND_M
1259
EH-B
To Fan
OVERVOLTAGE DETECTION
+5V6
+12V_M
6K8 3217
15K 3218
1K 3219
1K 3222
6208
BAS316
BAS316 6209
100K 3223
2202 47u
0V
NTC
7207
BC847B
PULLED UP IN AV BOARD
GND_D
FE-BT-VK-N
1263
NTC
GND_D
40VAC
PW_DN
To AV Board
EH-B
1264
+C
+C
GND_D
+5V6
+5V6
GND_M
GND_A
+12V_A
+12V_M
To AV Board
EH-B
1258
+VCC
+VCC
+VCC
GND_AMP
-VCC
-VCC
-VCC
NTC1
To Amplifier Board
8239 210 93412 dd wk0250

SUPPLY BOARD - CIRCUIT DIAGRAM (For pcb layout ... 93418)

1100	D6
1200	A2
1203	A2
1204	D2
1205	D2
1258	D10
1259	D8
1263	A10
1264	B10
1270	B1
2200	C3
2201	C2
2202	E8
2203	A3
2204	A2
2205	A2
2206	A8
2207	B6
2208	D4
2209	D4
2211	D4
2212	D5
2213	D3
2215	E2
2217	E3
2218	E3
2219	D5
2220	D6
2222	A4
2223	A3
2224	D7
2225	D8
2226	B6
2227	A8
2228	C2
2229	B9
3200	B2
3201	A6
3202	A4
3203	A5
3204	A5
3205	A7
3206	A7
3207	B7
3208	B6
3209	B5
3210	A8
3211	B6
3216	B6
3217	E7
3218	E7
3219	E7
3222	E7
3223	E8
3224	C7
3225	C8
3226	C7
3227	D7
3228	D7
3229	B3
3230	C2
3231	C3
3232	A7
3233	B8
3234	B8
3235	B9
6200	B2
6201	A7
6202	C2
6203	C4
6205	A6
6208	E8
6209	E8
6211	A3
6212	D3
6214	E3
6215	D7
6216	C3
6217	C2
6218	C3
7200	A5
7202	A7
7203	A7
7205	B5
7206	B5
7207	E8
7208	D5
7209	E3
7210	C7
7211	B8
9200	A7
9201	A5
9202	E6


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
SUPPLY
1200
T5A
1203
T5A
GBU8D
6211
2204 100n
2205 100n
2203 100n
2223 1m0
1m0 2222
30V +VH
-VH
-30V
GND_AMP
From Mains Transformer
1270 VH
40VAC
6200 1N4148
3200 4K7
PW_DN
6V
1N4003
50V
6202
3229 4K7
+Vref
39V
2201 10u
BZX79-C39 6216
47n 2200
BZX79-C8V2 6203
GND_D
6217 1N4003
-50V
3230 4K7
# 3231 10K
10u 2228
6218 BZX79-C39
-39V
GND_D
GND_D
1204 T5A
1205 T5A
GBU4K
6212
26V
2209 100n
2211 4m7
2213 100n
GND_M
7208 L7812CP
IN GND OUT
12V
2208 330n
2212 100n
GND_M
GND_M
GND_M
+12V_M
+12V_A
2219 47u
2220 47u
1100
# 9202
GND_A
GND_M
GND_AMP
13V
+C
7209 L4941
IN GND OUT
5.6V
+5V6
2215 10m
100n 2217
6214 1N4148
2218 10u
GND_D
GND_D
GND_D
GND_D
GND_M
# 9201
-VH
-30V
BUK7535-55A 7200
10K 3202
10K 3203
7205 BC857B
47K 3204
4K7 3209
7206 BC857B
GND_AMP
-29.1V
-VCC
BZX79-B27 6205
680R 3208
330R 3216
4m7 2207
2m2 # 2226
# 3211 47K
+VH
+Vref
# 9200
3201 2K7
7202
BUK7535-55A
100K
# 3232
6201 BZX79-B27
3205 10K
3206 680R
7203 BC847B
3207 330R
GND_AMP
29.1V
+VCC
2206 4m7
# 2227 2m2
# 3210 47K
3233 1K2
3234 10K
100K 3235
50V 4u7 2229
BC857CW 7211
+12V_M
220R 3224
8R2 3225
NTC1
3226 470R
BC327-25 7210
1K 3227
6215 BZX79-C4V7
USE NTC IN AMPLIFIER BOARD NOT INSERTED
# 3228 2322640
2224 100u
2225 100u
1259 EH-B
GND_M
OVERVOLTAGE DETECTION
+5V6
+12V_M
6K8 3217
15K 3218
1K 3219
1K 3222
100K 3223
2202 47u
6208 BAS316
BAS316 6209
0V
7207 BC847B
NTC
PULLED UP IN AV BOARD
GND_D
FE-BT-VK-N 1263
NTC
GND_D
40VAC
PW_DN
To AV Board
EH-B 1264
+C
+C
GND_D
+5V6
+5V6
GND_M
GND_A
+12V_A
+12V_M
To AV Board
EH-B 1258
+VCC
+VCC
+VCC
GND_AMP
-VCC
-VCC
-VCC
NTC1
To Amplifier Board

	1200	1203	
100W/37	6A3	6A3	UL
75W/100W/22/21	5A	5A	IEC

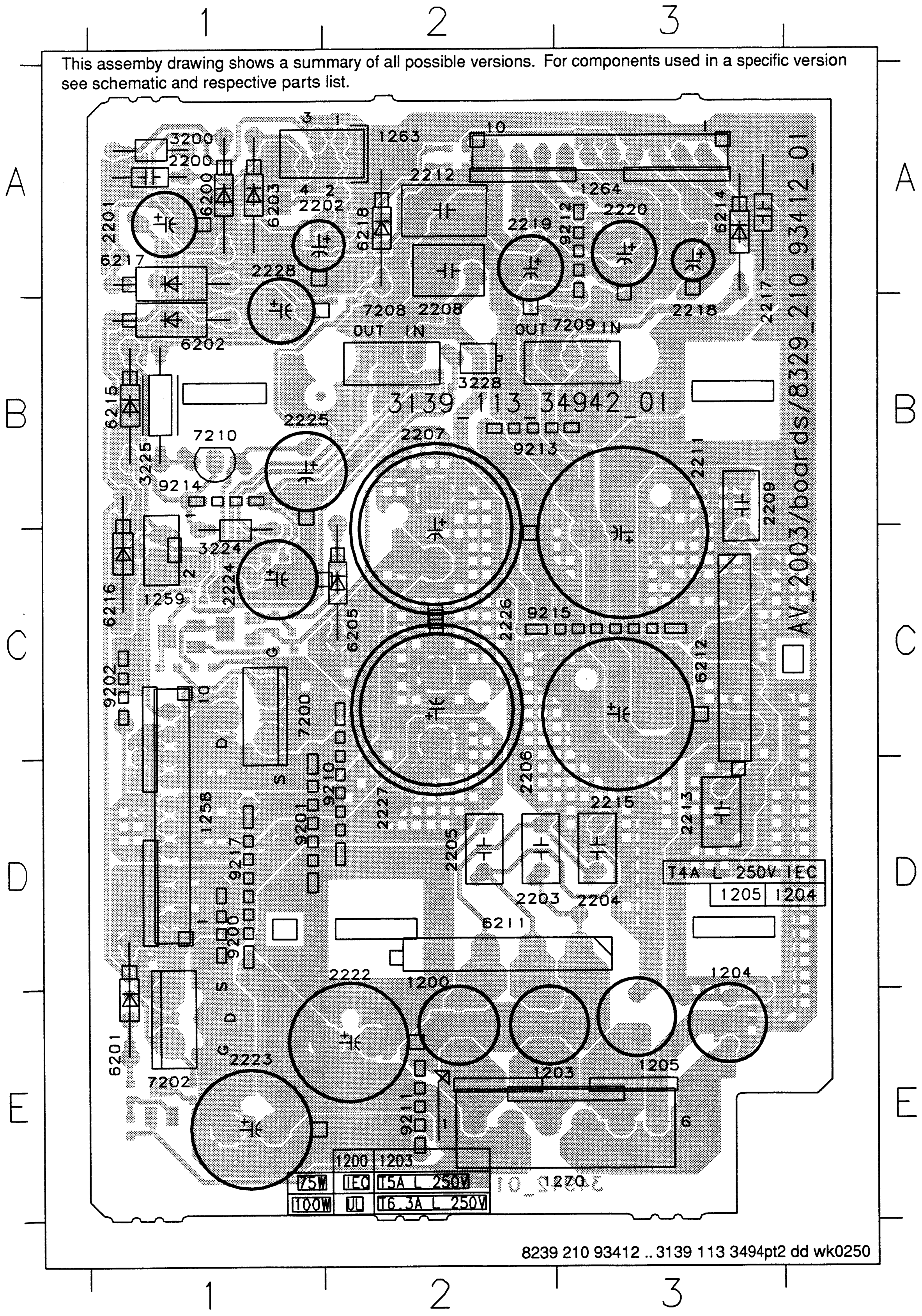
	1204	1205	
i6000	T 5A	250V	IEC
75W/100W	T 4A	250V	IEC

# Provision only

Note : Some values may varies, see respective parts list for correct value.

8239_210_93418_01...for 3494 pt8 dd wk0350

SUPPLY BOARD - COMPONENT LAYOUT

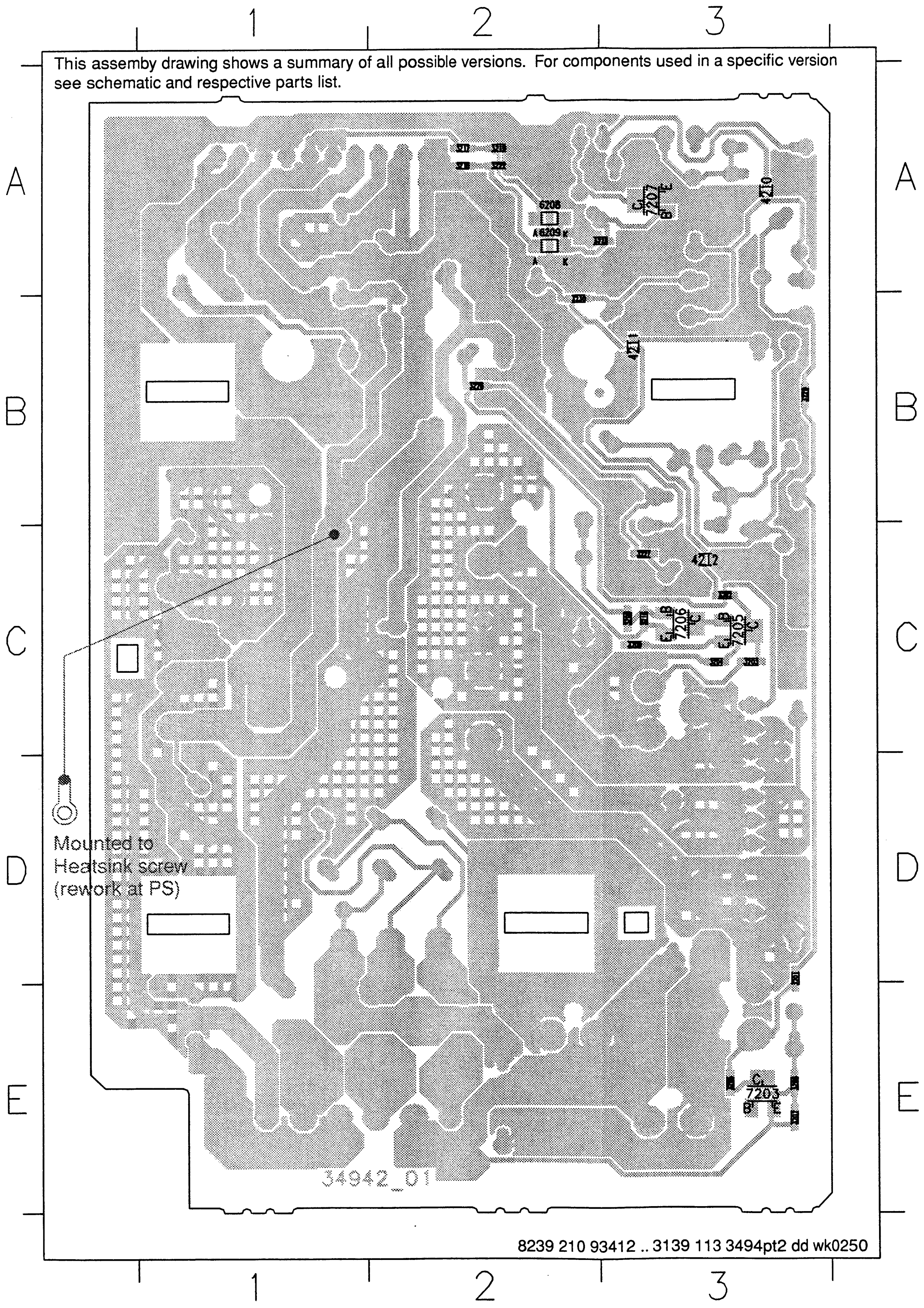

1
2
3
A
B
C
D
E
3200
2200
2201
6200
6203
6217
6202
1263
2212
1264
2202
6218
2219
9212
2220
6214
2228
7208
2208
OUT
IN
7209
2218
2217
3228
3139_113_34942_01
6215
3225
7210
9214
2225
2207
9213
2211
2209
AV_2003/boards/8329_210_93412_01
3224
2224
6216
1259
6205
2226
9215
6212
9202
7200
1258
9217
9201
9210
9200
2227
2206
2215
2213
2205
2203
2204
T4A L 250V IEC
1205
1204
6211
6201
7202
2222
1200
2223
9211
1203
1205
1270
75W
IEC
T5A L 250V
100W
UL
T6.3A L 250V

This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.

8239 210 93412 .. 3139 113 3494pt2 dd wk0250

1200	D2
1203	E2
1204	D3
1205	E3
1258	D1
1259	C1
1263	A2
1264	A3
1270	E3
2200	A1
2201	A1
2202	A1
2203	D2
2204	D3
2205	D2
2206	D2
2207	B2
2208	B2
2209	B3
2211	B3
2212	A2
2213	D3
2215	D3
2217	B3
2218	B3
2219	A2
2220	A3
2222	D2
2223	E1
2224	C1
2225	B1
2226	C2
2227	D2
2228	A1
3200	A1
3224	C1
3225	B1
3228	B2
6200	A1
6201	E1
6202	B1
6203	A1
6205	C2
6211	D2
6212	C3
6214	A3
6215	B1
6216	C1
6217	A1
6218	A2
7200	C1
7202	E1
7208	B2
7209	B3
7210	B1
9200	D1
9201	D1
9202	C1
9210	D2
9211	E2
9212	A3
9213	B2
9214	B1
9215	C2
9217	D1

SUPPLY BOARD - CHIP LAYOUT

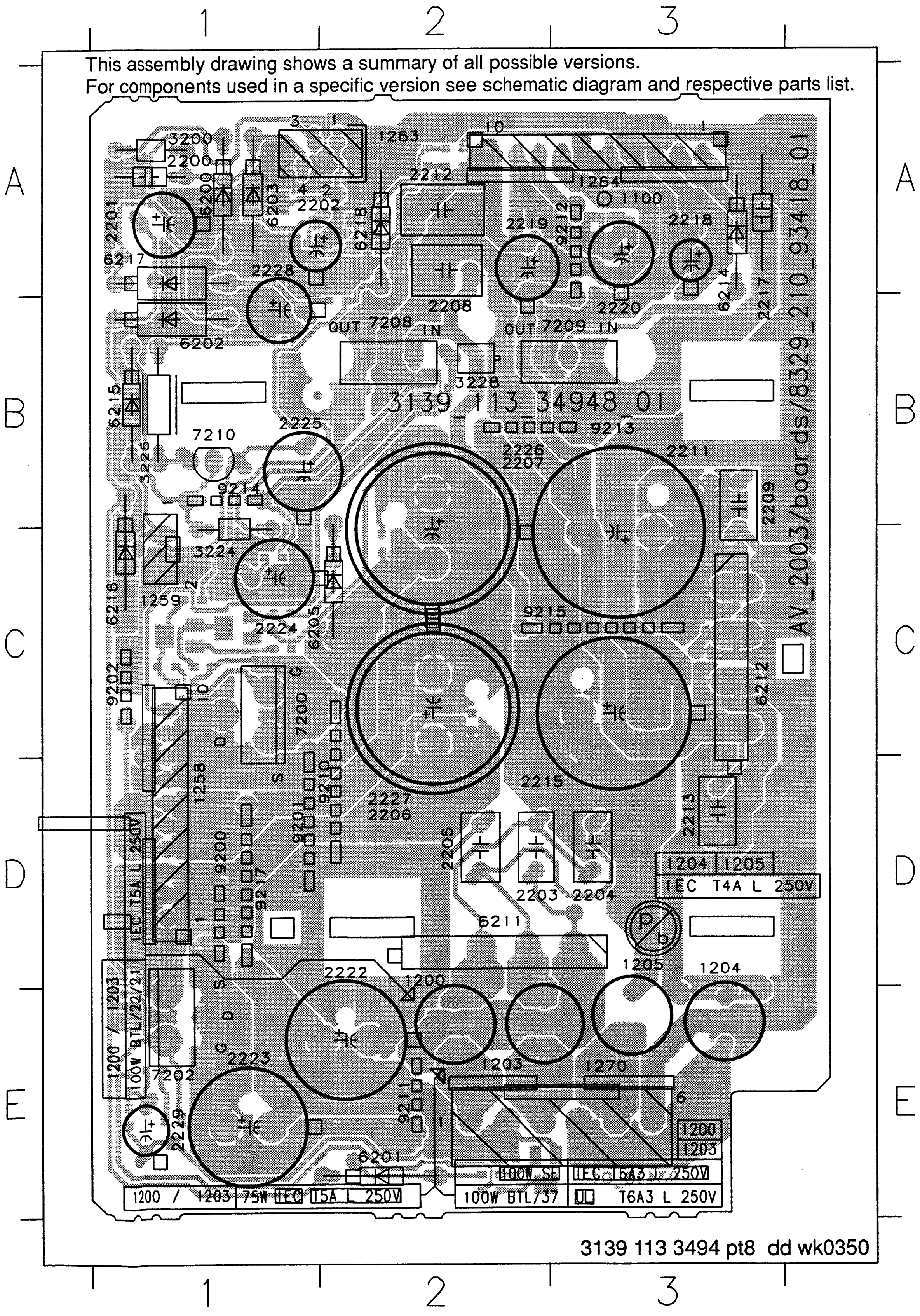

1
2
3
A
B
C
D
E
6208
6209
7207
4210
4211
4212
7206
7205
7203
Mounted to
Heatsink screw
(rework at PS)
34942_01

This assemby drawing shows a summary of all possible versions. For components used in a specific version see schematic and respective parts list.

8239 210 93412 .. 3139 113 3494pt2 dd wk0250

3201	D3
3202	C3
3203	C3
3204	C3
3205	E3
3206	E3
3207	E3
3208	C3
3209	C3
3216	C3
3217	A2
3218	A2
3219	A2
3222	A2
3223	A3
3226	B2
3227	C3
3229	B3
3230	B2
4210	A3
4211	B3
4212	C3
6208	A2
6209	A2
7203	E3
7205	C3
7206	C3
7207	A3

SUPPLY BOARD - COMPONENT LAYOUT (pcb layout ... 93418)



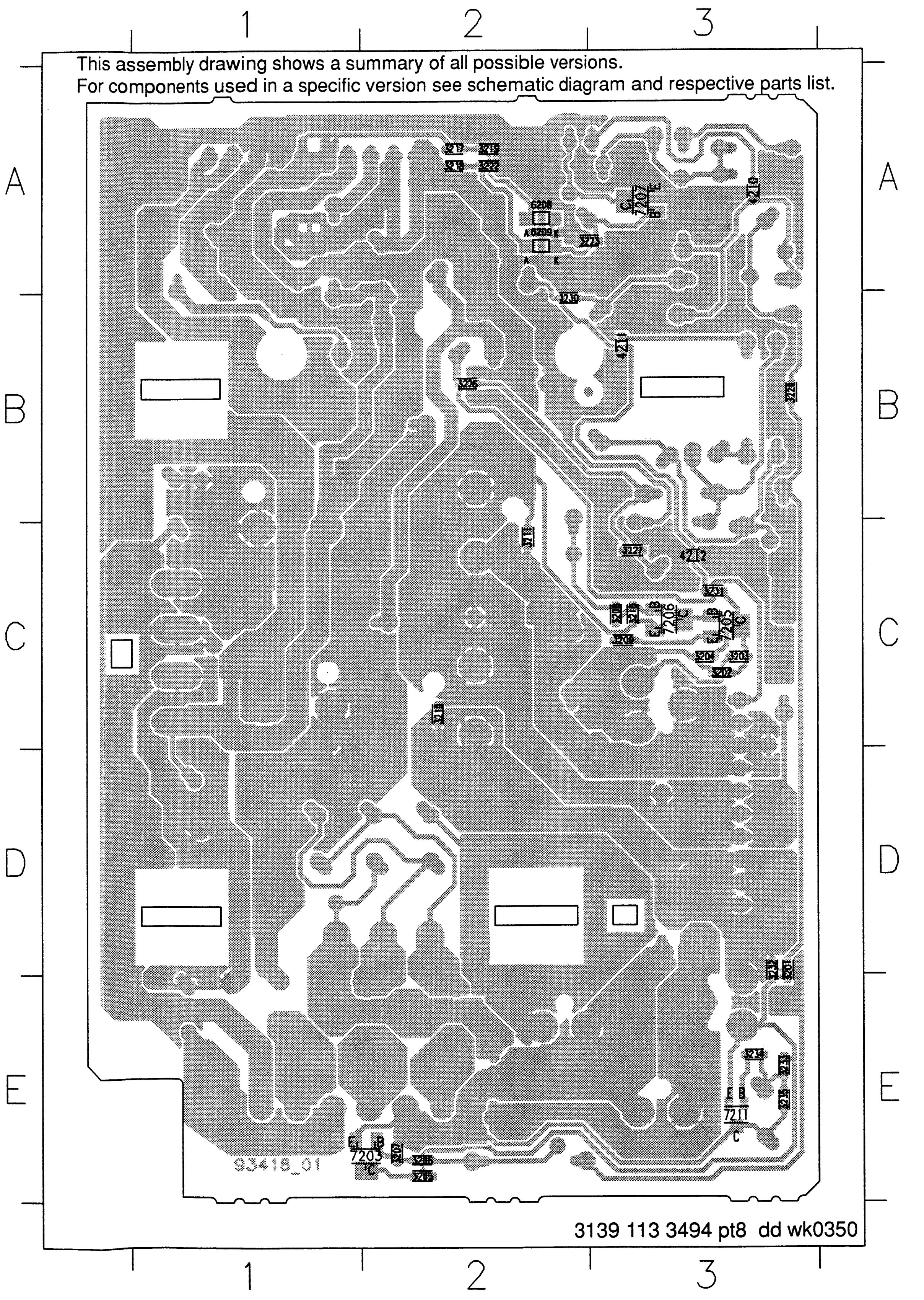
This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

1
2
3
A
B
C
D
E
3200
2200
2201
6200
6203
6217
2202
1263
2212
10
1264
1100
2219
9212
2218
6218
2228
2208
2220
6214
2217
6202
OUT 7208 IN
OUT 7209 IN
3228
3139 113 34948 01
AV 2003/boards/8329 210 93418 01
6215
3225
7210
2225
2226
2207
9213
2211
2209
9214
3224
1259
2224
6216
6205
9215
6212
9202
7200
1258
9210
9201
2227
2206
2215
2213
9200
9217
2205
2203
2204
1204
1205
IEC T4A L 250V
IEC T5A L 250V
6211
2222
1200
1205
1204
1203
1270
7202
2223
2229
9211
6201
1200 / 1203 100W BTL/22/21
1200 / 1203 75W IEC T5A L 250V
100W SE
IEC T6A3 L 250V
100W BTL/37
T6A3 L 250V
1200
1203

3139 113 3494 pt8 dd wk0350

1100	A3
1200	D2
1203	E2
1204	D3
1205	D3
1258	D1
1259	C1
1263	A2
1264	A3
1270	E3
2200	A1
2201	A1
2202	A1
2203	D2
2204	D3
2205	D2
2206	D2
2207	B2
2208	B2
2209	B3
2211	B3
2212	A2
2213	D3
2215	D2
2217	B3
2218	A3
2219	A2
2220	B3
2222	D2
2223	E1
2224	C1
2225	B1
2226	B2
2227	D2
2228	A1
2229	E1
3200	A1
3224	C1
3225	B1
3228	B2
6200	A1
6201	E2
6202	B1
6203	A1
6205	C1
6211	D2
6212	C3
6214	A3
6215	B1
6216	C1
6217	A1
6218	A2
7200	C1
7202	E1
7208	B2
7209	B3
7210	B1
9200	D1
9201	D1
9202	C1
9210	D2
9211	E2
9212	A3
9213	B3
9214	B1
9215	C2
9217	D1

SUPPLY BOARD - CHIP LAYOUT (pcb layout 93418)



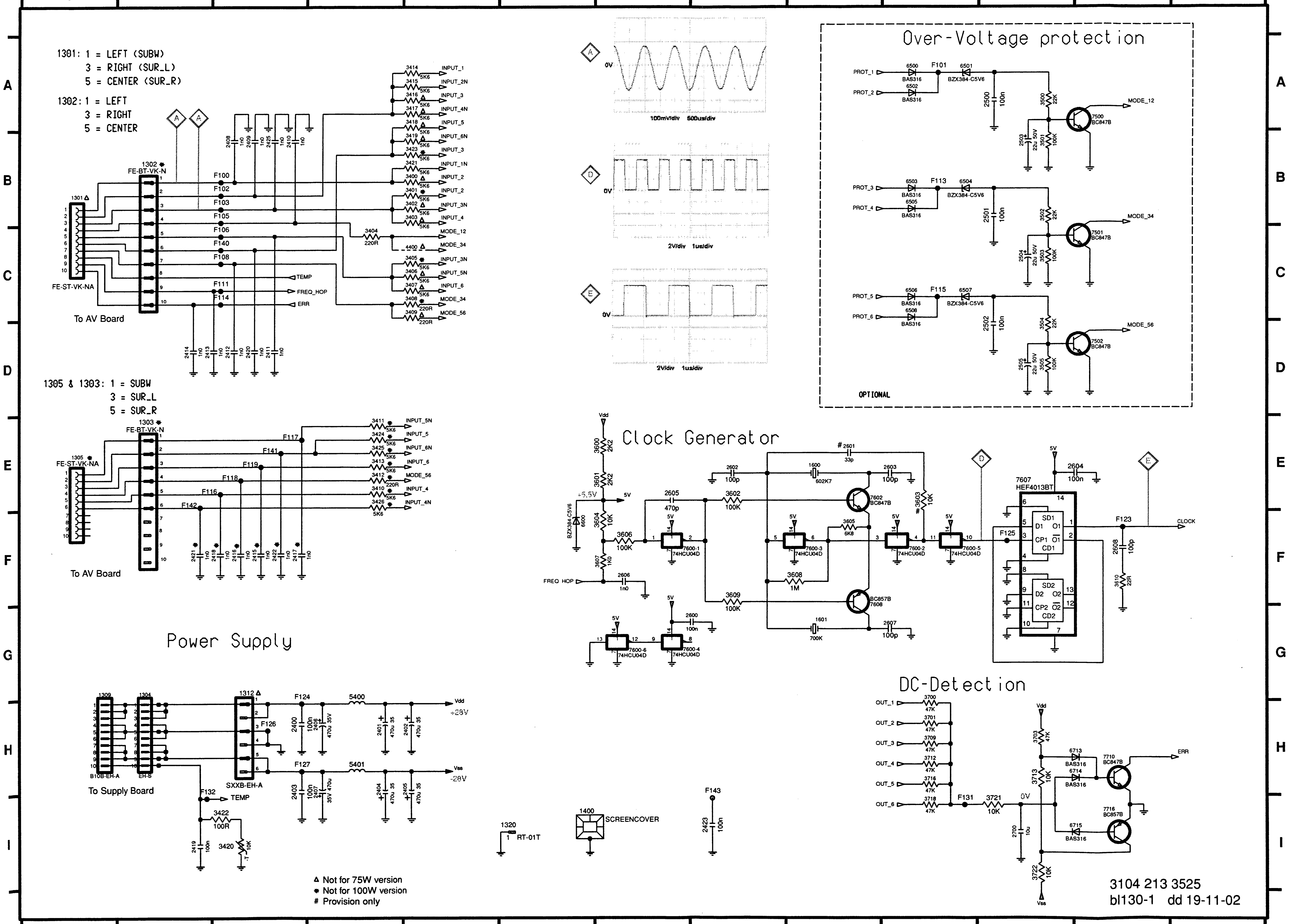
This assembly drawing shows a summary of all possible versions.
For components used in a specific version see schematic diagram and respective parts list.

1
2
3
A
B
C
D
E
3217
3219
3218
3222
7207
4210
6208
6209
3223
3230
4211
3226
3229
3211
3227
4212
3231
7206
7205
3209
3210
3208
3204
3203
3202
3216
3201
3232
3234
3233
3235
7211
7203
3205
3206
3207
93418_01

3139 113 3494 pt8 dd wk0350

3201	D3
3202	C3
3203	C3
3204	C3
3205	E2
3206	E2
3207	E2
3208	C3
3209	C3
3210	C2
3211	C2
3216	C3
3217	A2
3218	A2
3219	A2
3222	A2
3223	A3
3226	B2
3227	C3
3229	B3
3230	B2
3231	C3
3232	D3
3233	E3
3234	E3
3235	E3
4210	A3
4211	B3
4212	C3
6208	A2
6209	A2
7203	E2
7205	C3
7206	C3
7207	A3
7211	E3

AMPLIFIER BOARD - CLOCK GENERATOR & CONNECTION CIRCUIT

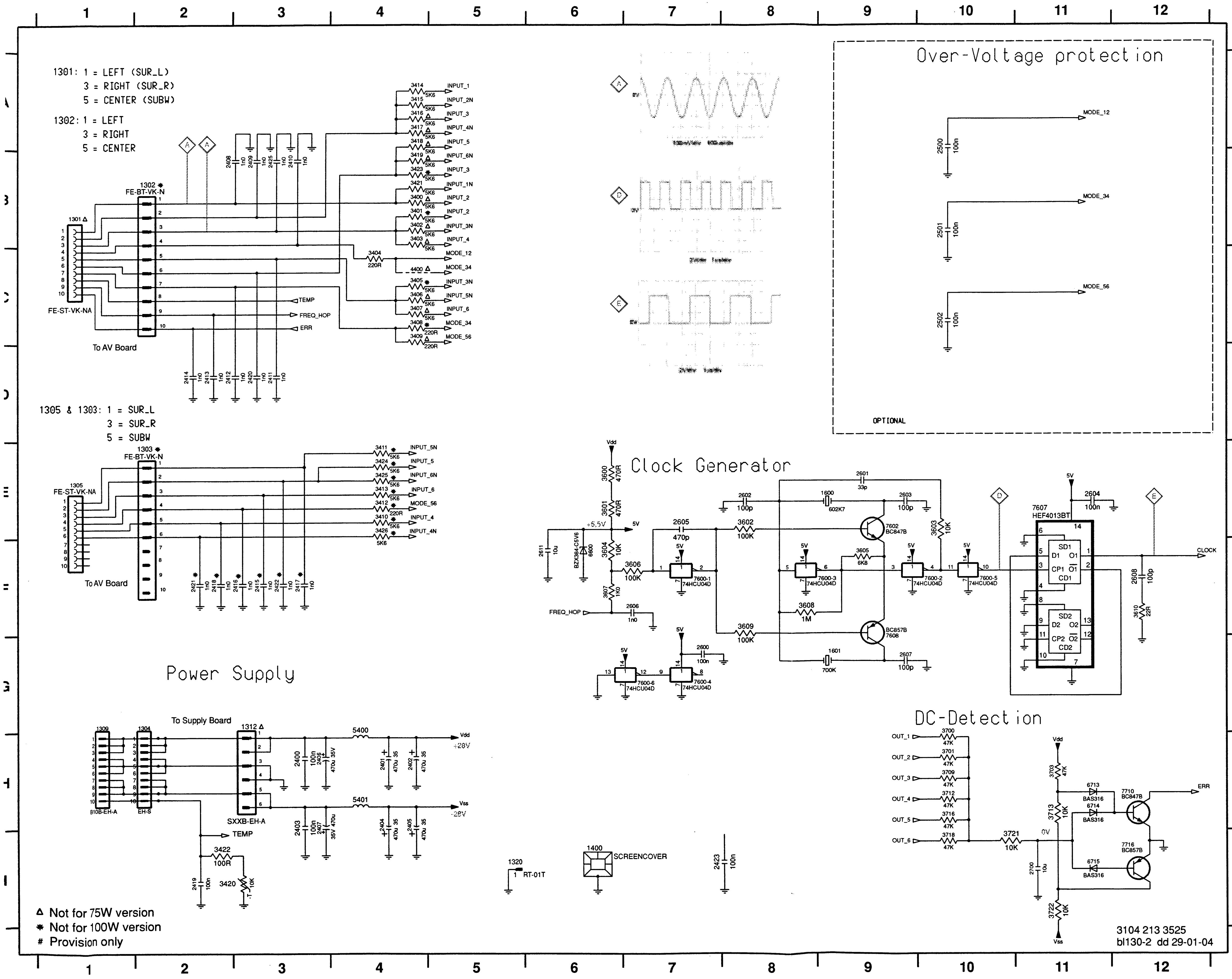

1301: 1 = LEFT (SUBW)
3 = RIGHT (SUR_L)
5 = CENTER (SUR_R)
1302: 1 = LEFT
3 = RIGHT
5 = CENTER
1302 FE-BT-VK-N
1301 FE-ST-VK-NA
To AV Board
1305 & 1303: 1 = SUBW
3 = SUR_L
5 = SUR_R
1303 FE-BT-VK-N
1305 FE-ST-VK-NA
To AV Board
Power Supply
1309 B10B-EH-A
1304 EH-S
1312 SXXB-EH-A
To Supply Board
Vdd +28V
Vss -28V
TEMP
1320 RT-01T
1400 SCREENCOVER
100mV/div 500us/div
2V/div 1us/div
2V/div 1us/div
Over-Voltage protection
PROT_1
PROT_2
PROT_3
PROT_4
PROT_5
PROT_6
MODE_12
MODE_34
MODE_56
OPTIONAL
Clock Generator
FREQ HOP
7607 HEF4013BT
CLOCK
DC-Detection
OUT_1
OUT_2
OUT_3
OUT_4
OUT_5
OUT_6
ERR
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

Δ Not for 75W version
✱ Not for 100W version
# Provision only

3104 213 3525
bl130-1 dd 19-11-02

1301	B1
1302	B2
1303	E2
1304	G2
1305	E1
1309	G1
1312	G3
1320	I6
1400	I6
1600	E9
1601	G9
2400	H3
2401	H4
2402	H5
2403	H3
2404	H4
2405	H5
2406	H4
2407	H4
2408	B3
2409	B3
2410	B3
2411	D3
2412	D3
2413	D2
2414	D2
2415	F3
2416	F3
2417	F3
2418	F3
2419	I2
2420	D3
2421	F2
2422	F3
2423	I8
2425	B3
2500	A11
2501	B11
2502	D11
2503	B11
2504	C11
2505	D11
2600	G8
2601	E9
2602	E8
2603	E10
2604	E12
2605	E7
2606	F7
2607	G10
2608	F12
2700	I11
3400	B5
3401	B5
3402	B5
3403	B5
3404	C4
3405	C5
3406	C5
3407	C5
3408	C5
3409	C5
3410	E4
3411	E4
3412	E4
3413	E4
3414	A5
3415	A5
3416	A5
3417	A5
3418	A5
3419	B5
3420	I3
3421	B5
3422	I3
3423	B5
3424	E4
3425	E4
3426	E4
3500	A11
3501	B11
3502	B11
3503	C11
3504	D11
3505	D11
3600	E7
3601	E7
3602	E8
3603	E10
3604	F7
3605	F9
3606	F7
3607	F7
3608	F9
3609	F8
3610	F12
3700	G10
3701	H10
3703	H11
3709	H10
3712	H10
3713	H11
3716	H10
3718	I10
3721	I11
3722	I11
4400	C5
5400	G4
5401	H4
6500	A10
6501	A10
6502	A10
6503	B10
6504	B10
6505	B10
6506	C10
6507	C10
6508	C10
6600	F6
6713	H12
6714	H12
6715	I12
7500	A12
7501	C12
7502	D12
7600-1	F8
7600-2	F10
7600-3	F9
7600-4	G8
7600-5	F11
7600-6	G7
7602	E9
7607	E11
7608	F9
7710	H12
7716	I12
F100	B3
F101	A10
F102	B3
F103	B3
F105	B3
F106	C3
F108	C3
F111	C3
F113	B10
F114	C3
F115	C10
F116	E2
F117	E3
F118	E3
F119	E3
F123	F12
F124	G3
F125	F11
F126	H3
F127	H3
F131	I10
F132	H2
F140	C3
F141	E3
F142	E2
F143	H8

MPLIFIER BOARD - CLOCK GENERATOR & CONNECTION CIRCUIT (For pcb layout ... 34255)

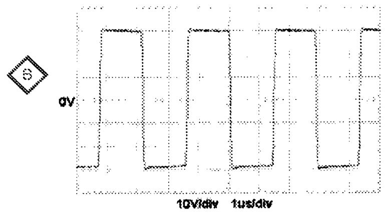

1301: 1 = LEFT (SUR_L)
3 = RIGHT (SUR_R)
5 = CENTER (SUBW)
1302: 1 = LEFT
3 = RIGHT
5 = CENTER
1302 *
FE-BT-VK-N
1301 Δ
FE-ST-VK-NA
To AV Board
1305 & 1303: 1 = SUR_L
3 = SUR_R
5 = SUBW
1303 *
FE-BT-VK-N
1305
FE-ST-VK-NA
To AV Board
INPUT_1
INPUT_2N
INPUT_3
INPUT_4N
INPUT_5
INPUT_6N
INPUT_1N
INPUT_2
INPUT_3N
INPUT_4
MODE_12
MODE_34
INPUT_5N
INPUT_6
MODE_56
TEMP
FREQ_HOP
ERR
Over-Voltage protection
MODE_12
MODE_34
MODE_56
2500 100n
2501 100n
2502 100n
OPTIONAL
Clock Generator
Vdd
3600 470R
3601 470R
+5,5V
5V
2611 10u
BZX384-C5V6 6600
3604 10K
3606 100K
3607 1n0
FREQ_HOP
2606 1n0
2605 470p
3602 100K
3609 100K
2601 33p
2602 100p
1600 602K7
2603 100p
3603 10K
7602 BC847B
7608 BC857B
3605 6K8
3608 1M
1601 700K
2607 100p
7600-1 74HCU04D
7600-2 74HCU04D
7600-3 74HCU04D
7600-4 74HCU04D
7600-5 74HCU04D
7600-6 74HCU04D
2600 100n
7607
HEF4013BT
SD1 D1 O1 CP1 Ō1 CD1
SD2 D2 O2 CP2 Ō2 CD2
2604 100n
CLOCK
2608 100p
3610 22R
Power Supply
To Supply Board
1309
1304
1312 Δ
B10B-EH-A
EH-S
SXXB-EH-A
5400
5401
Vdd +28V
Vss -28V
2400 100n
2406 470u 35V
2401 470u 35
2402 470u 35
2403 100n
2407 470u 35V
2404 470u 35
2405 470u 35
TEMP
3422 100R
2419 100n
3420 10K
1320 RT-01T
1400 SCREENCOVER
2423 100n
DC-Detection
OUT_1 3700 47K
OUT_2 3701 47K
OUT_3 3709 47K
OUT_4 3712 47K
OUT_5 3716 47K
OUT_6 3718 47K
3721 10K
0V
2700 10u
Vdd
3703 47K
3713 10K
3722 10K
Vss
6713 BAS316
6714 BAS316
6715 BAS316
7710 BC847B
7716 BC857B
ERR
A B C D E F G H I
1 2 3 4 5 6 7 8 9 10 11 12

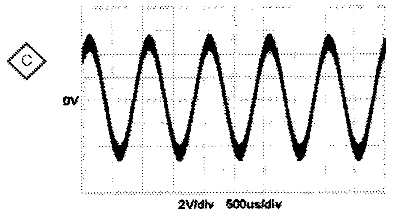
Δ Not for 75W version
* Not for 100W version
# Provision only

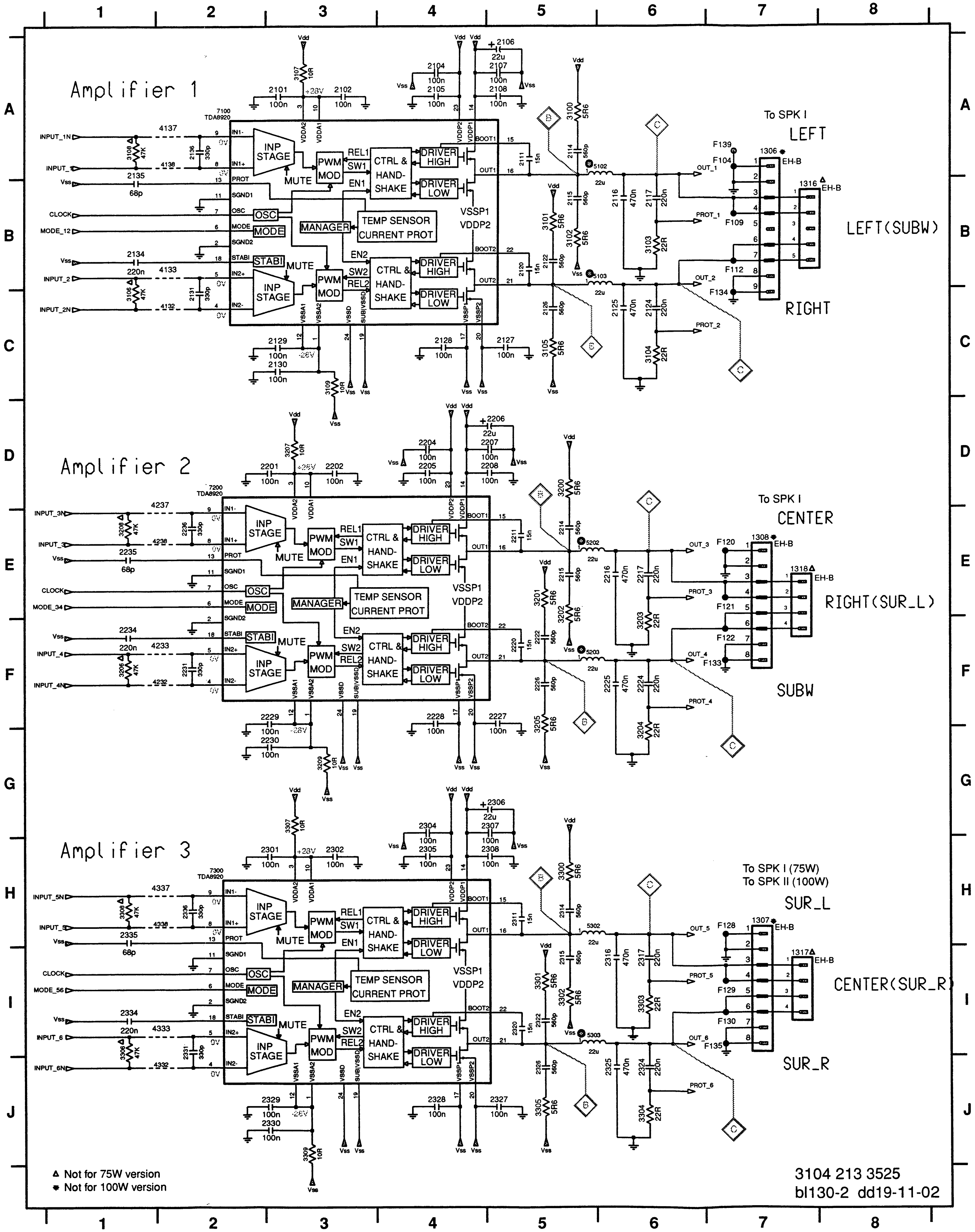
3104 213 3525
bl130-2 dd 29-01-04

1301	B1
1302	B2
1303	E2
1304	G2
1305	E1
1309	G1
1312	G3
1320	I5
1400	I6
1600	E9
1601	G9
2400	H3
2401	H4
2402	H4
2403	H3
2404	H4
2405	H4
2406	H3
2407	H3
2408	B2
2409	B3
2410	B3
2411	D3
2412	D2
2413	D2
2414	D2
2415	F3
2416	F3
2417	F3
2418	F2
2419	I2
2420	D3
2421	F2
2422	F3
2423	I7
2425	B3
2500	A10
2501	B10
2502	C10
2600	G7
2601	E9
2602	E8
2603	E9
2604	E11
2605	E7
2606	F7
2607	G9
2608	F12
2611	F6
2700	I11
3400	B4
3401	B4
3402	B4
3403	B4
3404	C4
3405	C4
3406	C4
3407	C4
3408	C4
3409	C4
3410	E4
3411	E4
3412	E4
3413	E4
3414	A4
3415	A4
3416	A4
3417	A4
3418	A4
3419	B4
3420	I2
3421	B4
3422	I2
3423	B4
3424	E4
3425	E4
3426	E4
3600	E6
3601	E6
3602	E8
3603	E10
3604	F6
3605	F9
3606	F7
3607	F6
3608	F8
3609	F8
3610	F12
3700	H10
3701	H10
3703	H11
3709	H10
3712	H10
3713	H11
3716	H10
3718	I10
3721	I10
3722	I11
4400	C4
5400	G4
5401	H4
6600	F6
6713	H11
6714	H11
6715	I11
7600-1	F7
7600-2	F10
7600-3	F9
7600-4	G7
7600-5	F10
7600-6	G7
7602	E9
7608	F9
7710	H12
7716	I12

AMPLIFIER BOARD - AMPLIFIER CIRCUIT

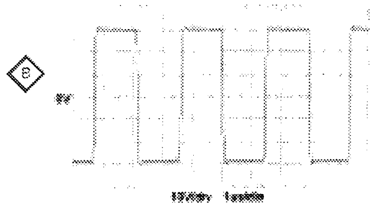


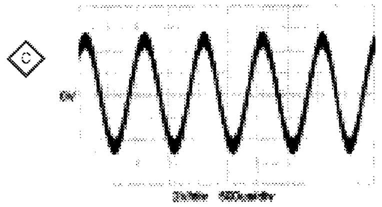


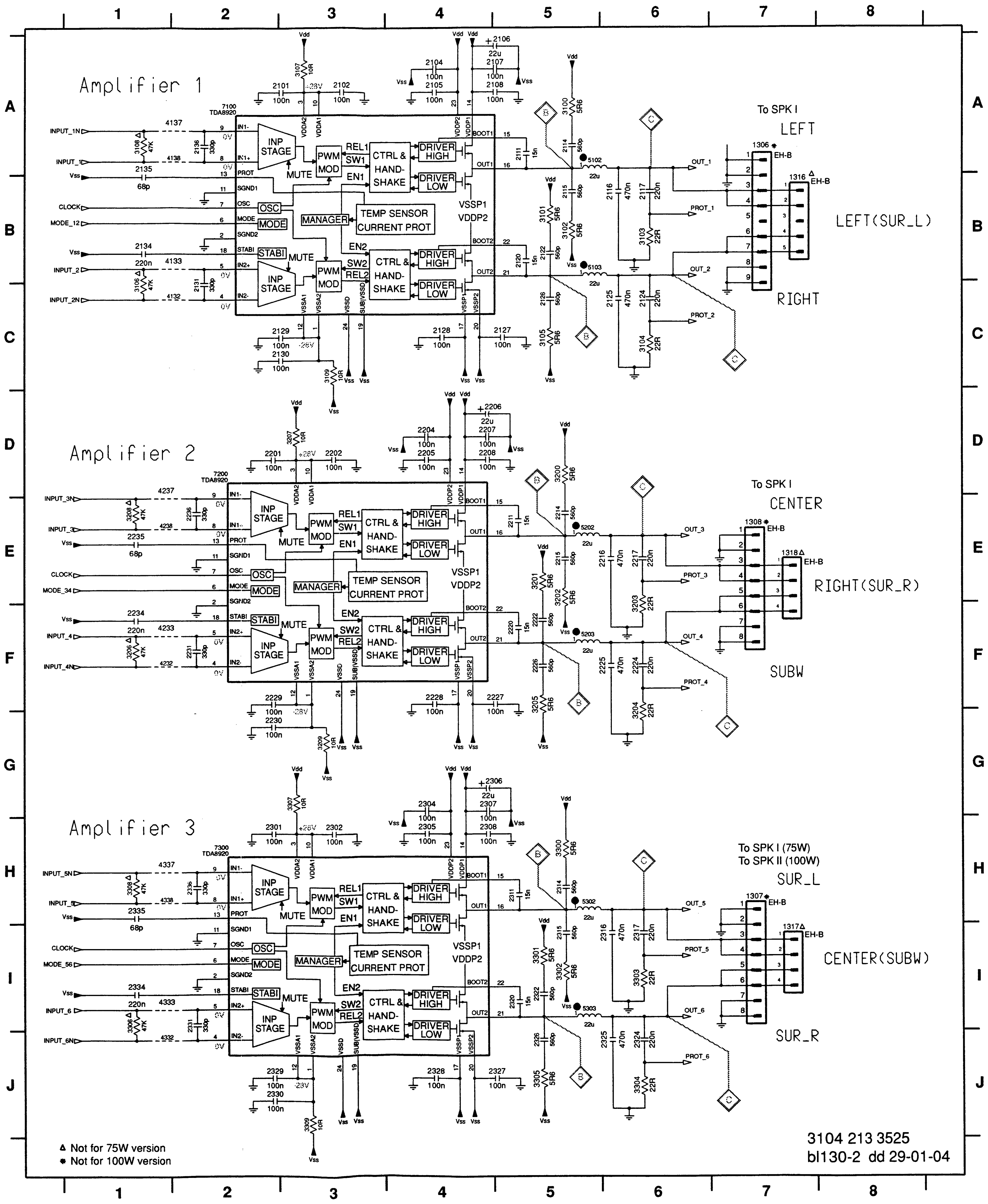

Amplifier 1
Amplifier 2
Amplifier 3
7100 TDA8920
7200 TDA8920
7300 TDA8920
INP STAGE
PWM MOD
CTRL & HAND-SHAKE
DRIVER HIGH
DRIVER LOW
OSC
MODE
STABI
MANAGER
TEMP SENSOR CURRENT PROT
MUTE
REL1
SW1
EN1
REL2
SW2
EN2
VSSP1
VDDP2
INPUT_1N
INPUT_1
INPUT_2
INPUT_2N
INPUT_3N
INPUT_3
INPUT_4
INPUT_4N
INPUT_5N
INPUT_5
INPUT_6
INPUT_6N
CLOCK
MODE_12
MODE_34
MODE_56
Vss
Vdd
To SPK I
LEFT
RIGHT
LEFT(SUBW)
CENTER
RIGHT(SUR_L)
SUBW
To SPK I (75W)
To SPK II (100W)
SUR_L
SUR_R
CENTER(SUR_R)
OUT_1
OUT_2
OUT_3
OUT_4
OUT_5
OUT_6
PROT_1
PROT_2
PROT_3
PROT_4
PROT_5
PROT_6
EH-B
1306
1307
1308
1316
1317
1318
1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
Δ Not for 75W version
✱ Not for 100W version
3104 213 3525
bl130-2 dd19-11-02

1306	A7
1307	H7
1308	E7
1316	B7
1317	I7
1318	E7
2101	A3
2102	A3
2104	A4
2105	A4
2106	A5
2107	A5
2108	A5
2111	A5
2114	A5
2115	B5
2116	B6
2117	B6
2120	B5
2122	B5
2124	C6
2125	C6
2126	C5
2127	C5
2128	C4
2129	C3
2130	C3
2131	C2
2134	B1
2135	A1
2136	A2
2201	D3
2202	D3
2204	D4
2205	D4
2206	D5
2207	D5
2208	D5
2211	E5
2214	E5
2215	E5
2216	E6
2217	E6
2220	F5
2222	F5
2224	F6
2225	F6
2226	F5
2227	F5
2228	F4
2229	F3
2230	G3
2231	F2
2234	F1
2235	E1
2236	E2
2301	H3
2302	H3
2304	G4
2305	H4
2306	G5
2307	G5
2308	H5
2311	H5
2314	H5
2315	I5
2316	I6
2317	I6
2320	I5
2322	I5
2324	J6
2325	J6
2326	J5
2327	J5
2328	J4
2329	J3
2330	J3
2331	I2
2334	I1
2335	H1
2336	H2
3100	A5
3101	B5
3102	B5
3103	B6
3104	C6
3105	C5
3106	C1
3107	A3
3108	A1
3109	C3
3200	D5
3201	E5
3202	E5
3203	F6
3204	G6
3205	F5
3206	F1
3207	D3
3208	E1
3209	G3
3300	H5
3301	I5
3302	I5
3303	I6
3304	J6
3305	J5
3306	I1
3307	G3
3308	H1
3309	J3
4132	C2
4133	B2
4137	A2
4138	A2
4232	F2
4233	F2
4237	D2
4238	E2
4332	J2
4333	I2
4337	H2
4338	H2
5102	A6
5103	B6
5202	E5
5203	F5
5302	H5
5303	I5
7100	A2
7200	D2
7300	H2
F104	A7
F109	B7
F112	B7
F120	E7
F121	E7
F122	F7
F128	H7
F129	I7
F130	I7
F133	F7
F134	C7
F135	I7
F139	A7

MPLIFIER BOARD - AMPLIFIER CIRCUIT (For pcb layout ... 34255)






Amplifier 1
Amplifier 2
Amplifier 3
7100
TDA8920
7200
TDA8920
7300
TDA8920
INP STAGE
PWM MOD
CTRL & HAND-SHAKE
DRIVER HIGH
DRIVER LOW
OSC
MODE
STABI
MANAGER
TEMP SENSOR CURRENT PROT
MUTE
REL1
SW1
EN1
EN2
SW2
REL2
VSSP1
VDDP2
INPUT_1N
INPUT_1P
INPUT_2
INPUT_2N
INPUT_3N
INPUT_3
INPUT_4
INPUT_4N
INPUT_5N
INPUT_5
INPUT_6
INPUT_6N
CLOCK
MODE_12
MODE_34
MODE_56
Vdd
Vss
OUT_1
OUT_2
OUT_3
OUT_4
OUT_5
OUT_6
PROT_1
PROT_2
PROT_3
PROT_4
PROT_5
PROT_6
To SPK I
LEFT
LEFT(SUR_L)
RIGHT
CENTER
RIGHT(SUR_R)
SUBW
To SPK I (75W)
To SPK II (100W)
SUR_L
CENTER(SUBW)
SUR_R
1306
1307
1308
1316
1317
1318
EH-B
1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J

∆ Not for 75W version
* Not for 100W version

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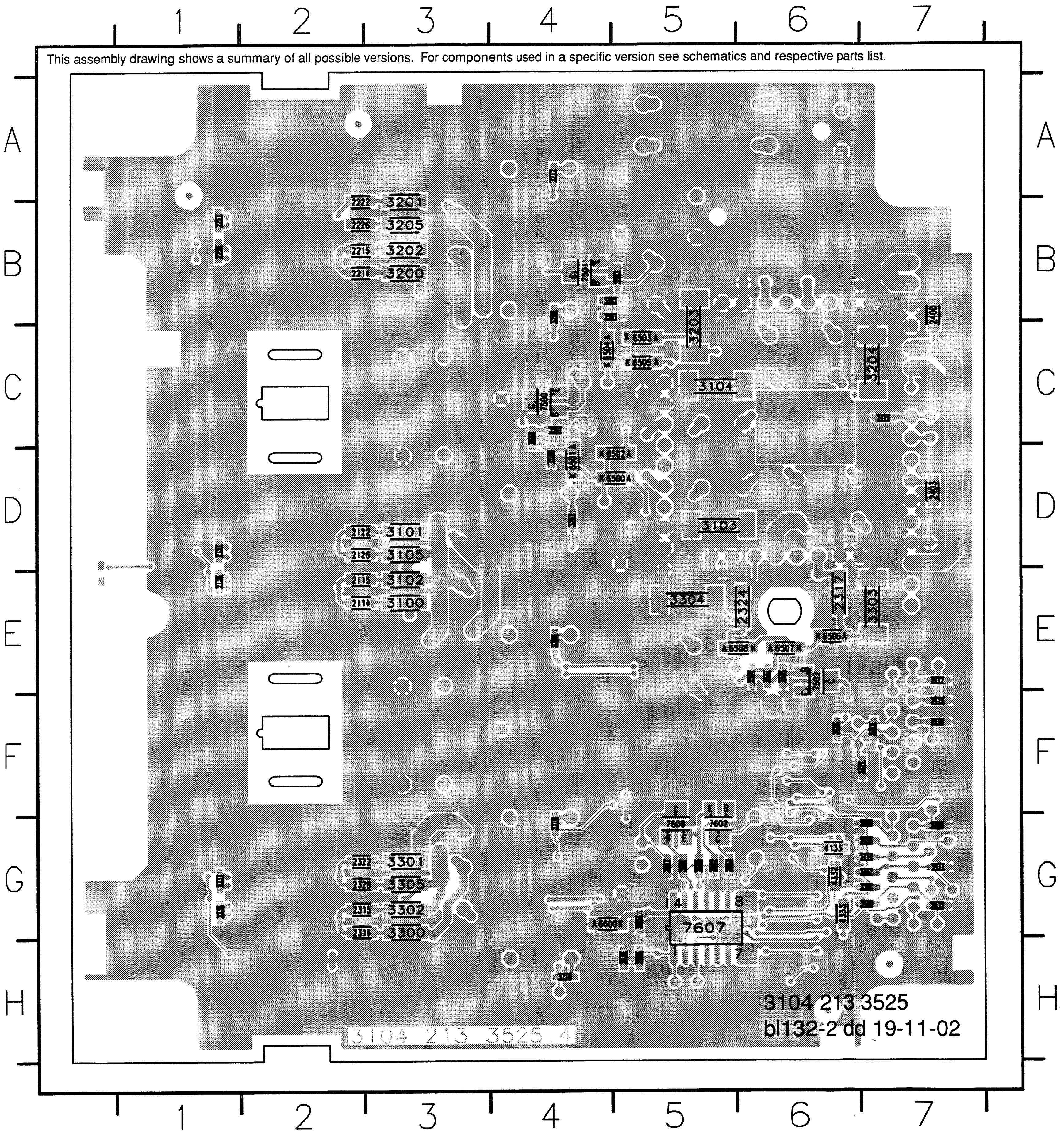
bl130-2 dd 29-01-04

1306	A7
1307	H7
1308	E7
1316	B7
1317	I7
1318	E7
2101	A3
2102	A3
2104	A4
2105	A4
2106	A5
2107	A5
2108	A5
2111	A5
2114	A5
2115	B5
2116	B6
2117	B6
2120	B5
2122	B5
2124	C6
2125	C6
2126	C5
2127	C5
2128	C4
2129	C3
2130	C3
2131	C2
2134	B1
2135	A1
2136	A2
2201	D2
2202	D3
2204	D4
2205	D4
2206	D5
2207	D4
2208	D4
2211	E5
2214	E5
2215	E5
2216	E6
2217	E6
2220	F5
2222	F5
2224	F6
2225	F6
2226	F5
2227	F5
2228	F4
2229	F2
2230	G2
2231	F2
2234	F1
2235	E1
2236	E2
2301	H2
2302	H3
2304	G4
2305	H4
2306	G5
2307	G4
2308	H4
2311	H5
2314	H5
2315	I5
2316	I6
2317	I6
2320	I5
2322	I5
2324	J6
2325	J6
2326	J5
2327	J5
2328	J4
2329	J2
2330	J2
2331	I2
2334	I1
2335	H1
2336	H2
3100	A5
3101	B5
3102	B5
3103	B6
3104	C6
3105	C5
3106	C1
3107	A3
3108	A1
3109	C3
3200	D5
3201	E5
3202	E5
3203	F6
3204	G6
3205	F5
3206	F1
3207	D3
3208	E1
3209	G3
3300	H5
3301	I5
3302	I5
3303	I6
3304	J6
3305	J5
3306	I1
3307	G3
3308	H1
3309	J3
4132	C2
4133	B2
4137	A2
4138	A2
4232	F1
4233	F1
4237	D1
4238	E1
4332	J1
4333	I1
4337	H1
4338	H1
5102	A5
5103	B5
5202	E5
5203	F5
5302	H5
5303	I5

AMPLIFIER BOARD - CHIP VIEW

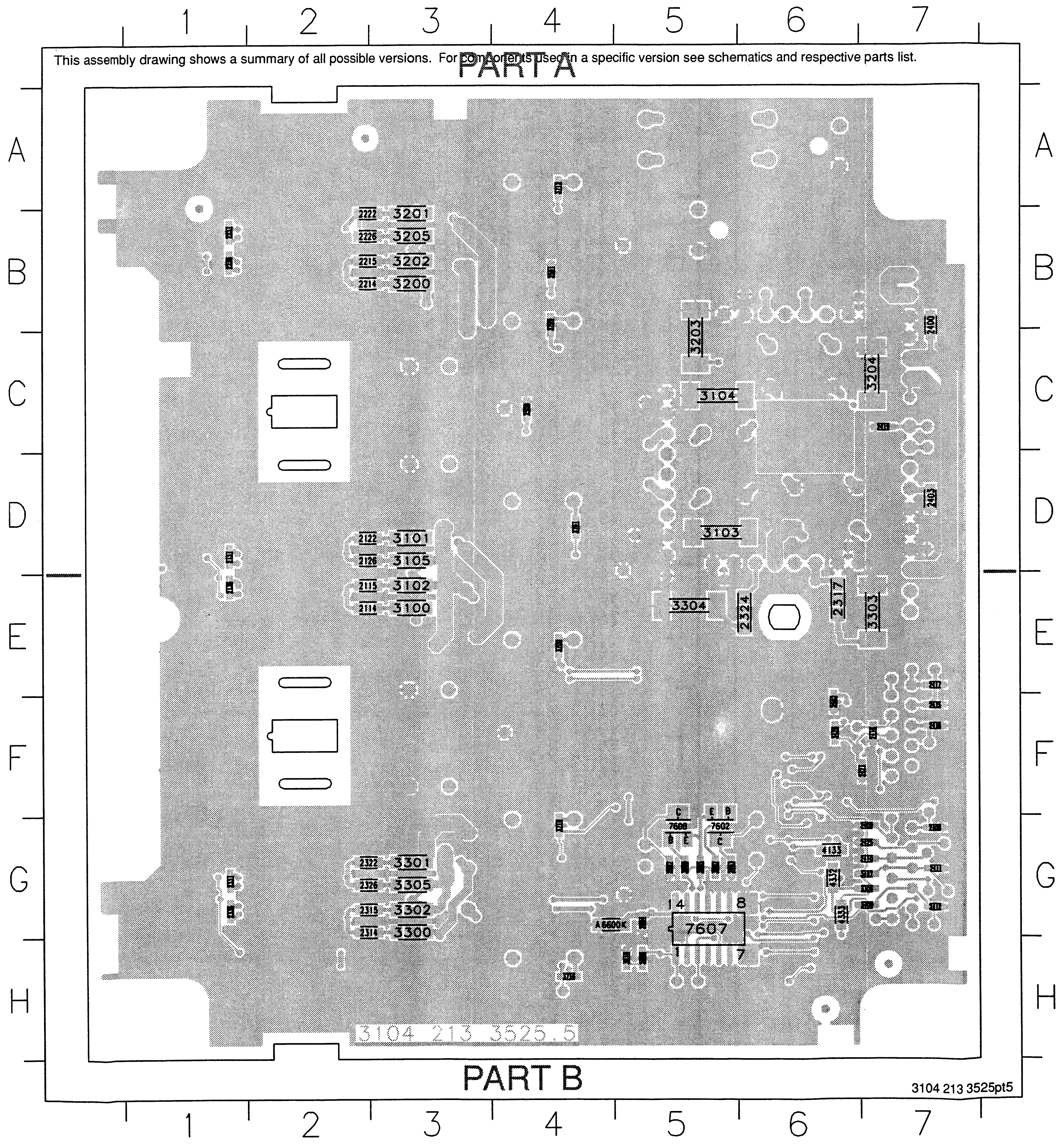


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematics and respective parts list.

1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
3201
3205
3202
3200
3203
3204
3104
3103
3101
3105
3102
3100
3304
2324
2317
3303
3301
3305
3302
3300
7607
4133
3104 213 3525
bl132-2 dd 19-11-02
3104 213 3525.4

2114	E2
2115	E2
2122	D2
2126	D2
2131	D1
2136	E1
2214	B2
2215	B2
2222	B2
2226	B2
2231	B1
2236	B1
2314	G2
2315	G2
2317	E6
2322	G2
2324	E6
2326	G2
2331	G1
2332	G6
2336	G1
2400	B7
2403	D7
2408	G7
2409	G7
2410	G7
2411	G7
2412	G7
2415	F7
2416	F7
2417	E7
2418	F7
2419	C7
2421	F7
2425	G7
2500	D4
2501	B5
2502	E6
2603	G5
2604	G5
2607	G5
2608	H5
3100	E3
3101	D3
3102	E3
3103	D5
3104	C5
3105	D3
3200	B3
3201	B3
3202	B3
3203	C5
3204	C7
3205	B3
3300	G3
3301	G3
3302	G3
3303	E7
3304	E5
3305	G3
3306	G7
3407	G7
3409	G7
3426	F6
3500	C4
3501	C4
3502	B5
3503	B5
3504	E6
3505	E6
3602	G5
3605	G5
3609	G5
3610	H5
3700	E4
3701	D4
3709	B4
3712	A4
3716	H4
3718	G4
4133	G6
4333	G6
6500	D5
6501	D4
6502	D5
6503	C5
6504	C4
6505	C5
6506	E6
6507	E6
6508	E6
6600	G4
7500	C4
7501	B4
7502	E6
7602	G5
7607	G5
7608	G5

MPLIFIER BOARD - CHIP VIEW (pcb layout ... 35255)



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematics and respective parts list.

1
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3
4
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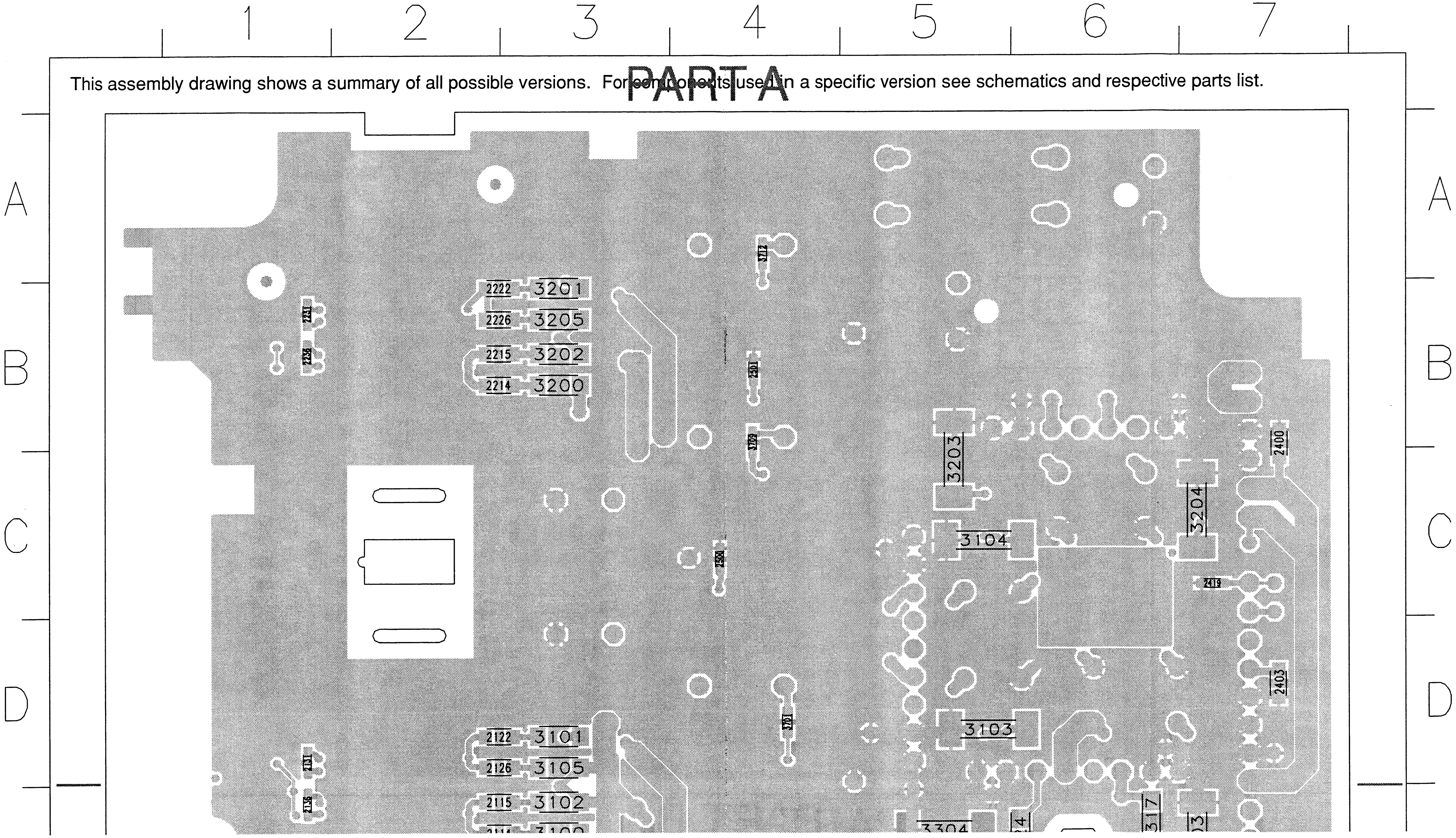
A
B
C
D
E
F
G
H
PART A
PART B
3201
3205
3202
3200
2222
2226
2215
2214
3203
3104
3204
2400
3101
3105
3102
3100
2122
2126
2115
2114
3103
3304
2324
2317
3303
2403
3301
3305
3302
3300
2322
2326
2315
2314
7608
7602
C
B
E
14
8
7607
1
7
A6600K
4133
4332
4333
3104 213 3525.5
3104 213 3525pt5

2114	E2
2115	E2
2122	D2
2126	D2
2131	D1
2136	E1
2214	B2
2215	B2
2222	B2
2226	B2
2231	B1
2236	B1
2314	G2
2315	G2
2317	E6
2322	G2
2324	E6
2326	G2
2331	G1
2336	G1
2400	B7
2403	D7
2408	G7
2409	G7
2410	G7
2411	G7
2412	G7
2415	F7
2416	F7
2417	E7
2418	F7
2419	C7
2421	F7
2425	G7
2500	C4
2501	B4
2502	F6
2603	G5
2604	G5
2607	G5
2608	H5
3100	E3
3101	D3
3102	E3
3103	D5
3104	C5
3105	D3
3200	B3
3201	B3
3202	B3
3203	C5
3204	C7
3205	B3
3300	G3
3301	G3
3302	G3
3303	E7
3304	E5
3305	G3
3306	G7
3407	G7
3409	G7
3426	F6
3602	G5
3605	G5
3609	G5
3610	H5
3700	E4
3701	D4
3709	B4
3712	A4
3716	H4
3718	G4
4133	G6
4332	G6
4333	G6
6600	G4
7602	G5
7607	G5
7608	G5
F100	F7
F102	G7
F103	G7
F104	E5
F105	G7
F106	G7
F108	G7
F109	D5
F111	G7
F112	C5
F114	G7
F116	F7
F117	E7
F118	F6
F119	E7
F120	B6
F121	B6
F122	B6
F123	H5
F124	C7
F125	H5
F126	D7
F127	C7
F128	D6
F129	E6
F130	D6
F131	H4
F132	C7
F133	B7
F134	C5
F135	E5
F139	D5
F140	G7
F141	E7
F142	F6
F143	C6

AMPLIFIER BOARD - CHIP VIEW (pcb layout ... 35255) PART A


1
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A
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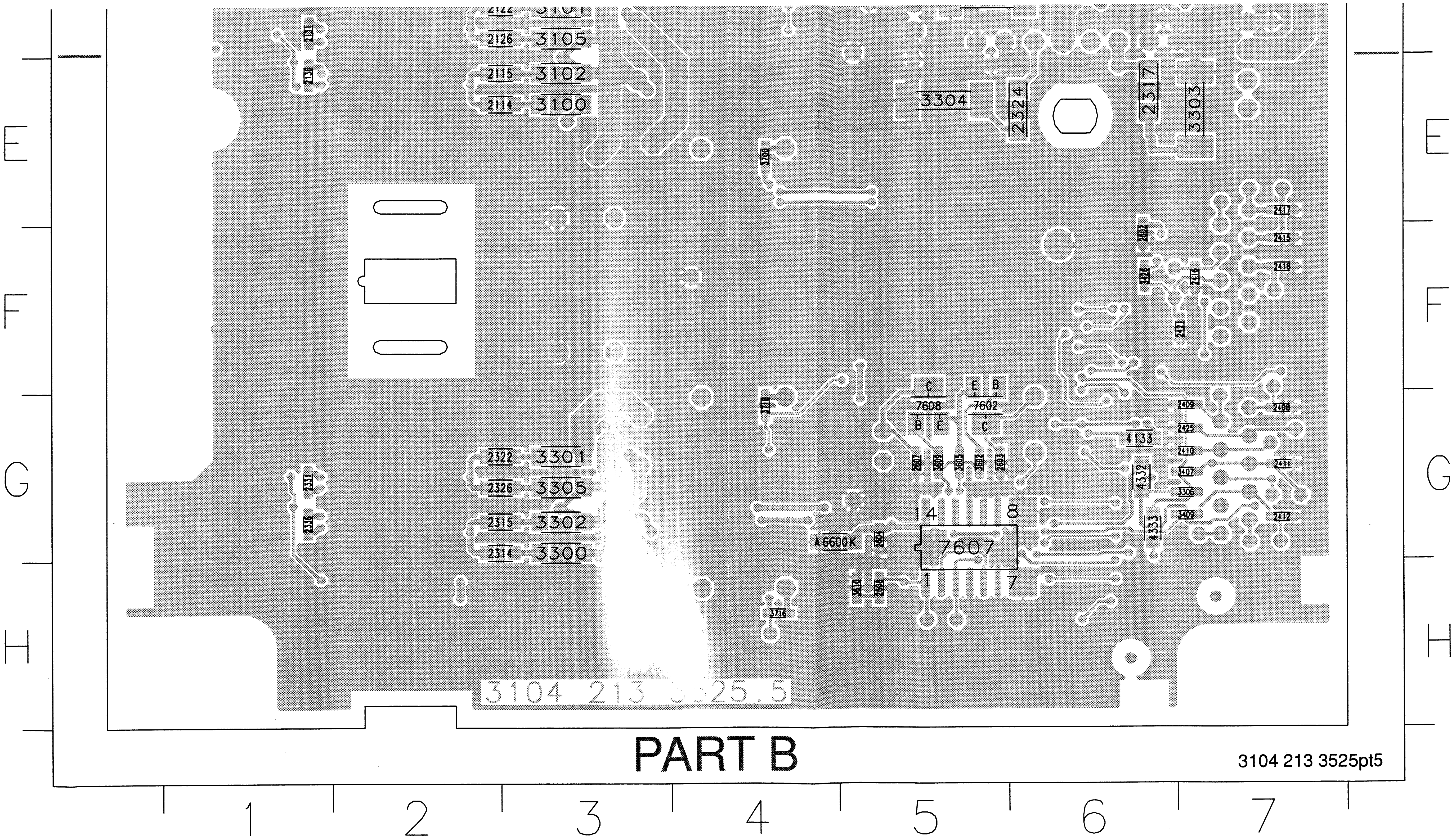
D
PART A
2222
3201
2226
3205
2215
3202
2214
3200
3203
3204
3104
2419
2400
2403
3103
2122
3101
2126
3105
2115
3102

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematics and respective parts list.

AMPLIFIER BOARD - CHIP VIEW (pcb layout ... 35255) PART B


E
F
G
H
2122
3101
2126
3105
2115
3102
2114
3100
2131
2138
3304
2324
2317
3303
3700
2417
2415
2418
2416
2321
3718
7608
7602
C
E
B
2409
2408
2425
4133
2410
2411
4332
3407
3306
3409
2412
4333
2322
3301
2326
3305
2315
3302
2314
3300
2331
2338
14
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7607
1
7
A 6600K
3716
3104 213 3525.5
PART B
3104 213 3525pt5
1
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AMPLIFIER BOARD - COMPONENT LAYOUT

1301	G1
1302	G1
1303	F1
1304	D1
1305	F1
1306	D3
1307	D2
1308	B2
1309	D1
1312	B1
1316	D3
1317	D2
1318	B2
1320	F2
1400	D4
1600	G2
1601	G3
2101	D7
2102	E7
2104	D5
2105	D5
2106	D5
2107	E5
2108	E5
2111	E5
2116	D3
2117	D3
2120	D5
2124	C3
2125	C3
2127	D5
2128	E5
2129	E6
2130	D7
2134	E5
2135	E6
2201	B7
2202	B7
2204	B5
2205	A5
2206	B5
2207	B5
2208	B5
2211	B5
2216	C2
2217	C3
2220	B5
2224	C1
2225	C2
2227	B5
2228	B5
2229	B6
2230	A7
2234	B5
2235	B6
2301	G7
2302	G7
2304	G5
2305	G5
2306	G5
2307	G5
2308	H5
2311	G5
2316	D2
2320	G5
2325	D2
2327	G5
2328	G5
2329	H6
2330	G7
2334	G5
2335	H6
2401	C5
2402	E5
2404	D5
2405	F5
2406	A2
2407	B3
2413	G1
2414	G1
2420	H1
2422	E1
2423	C2
2503	C4
2504	B3
2505	E3
2600	H3
2601	G3
2602	G3
2605	G3
2606	G3
2700	F3
3106	G2
3107	D6
3108	F2
3109	D6
3206	F1
3207	A6
3208	G2
3209	A6
3307	G6
3308	G2
3309	G6
3400	F1
3401	G1
3402	G1
3403	F1
3404	G1
3405	G1
3406	G1
3408	G1
3410	F1
3411	E1
3412	F1
3413	F1
3414	F1
3415	G1
3416	F1
3417	F1
3418	G1
3419	G1
3420	E7
3421	F2
3422	C1
3423	H1
3424	E1
3425	E1
3600	G3
3601	G3
3603	G3
3604	G3
3606	G3
3607	G3
3608	G3
3703	F3
3713	F3
3721	F3
3722	F3
4132	G2
4137	F2
4138	F2
4232	F2
4233	F2
4237	G2
4238	F2
4337	G2
4338	G2
4400	G2
5102	E4
5103	D4
5202	B4
5203	A4
5302	H4
5303	G4
5400	A3
5401	A3
6713	F3
6714	F3
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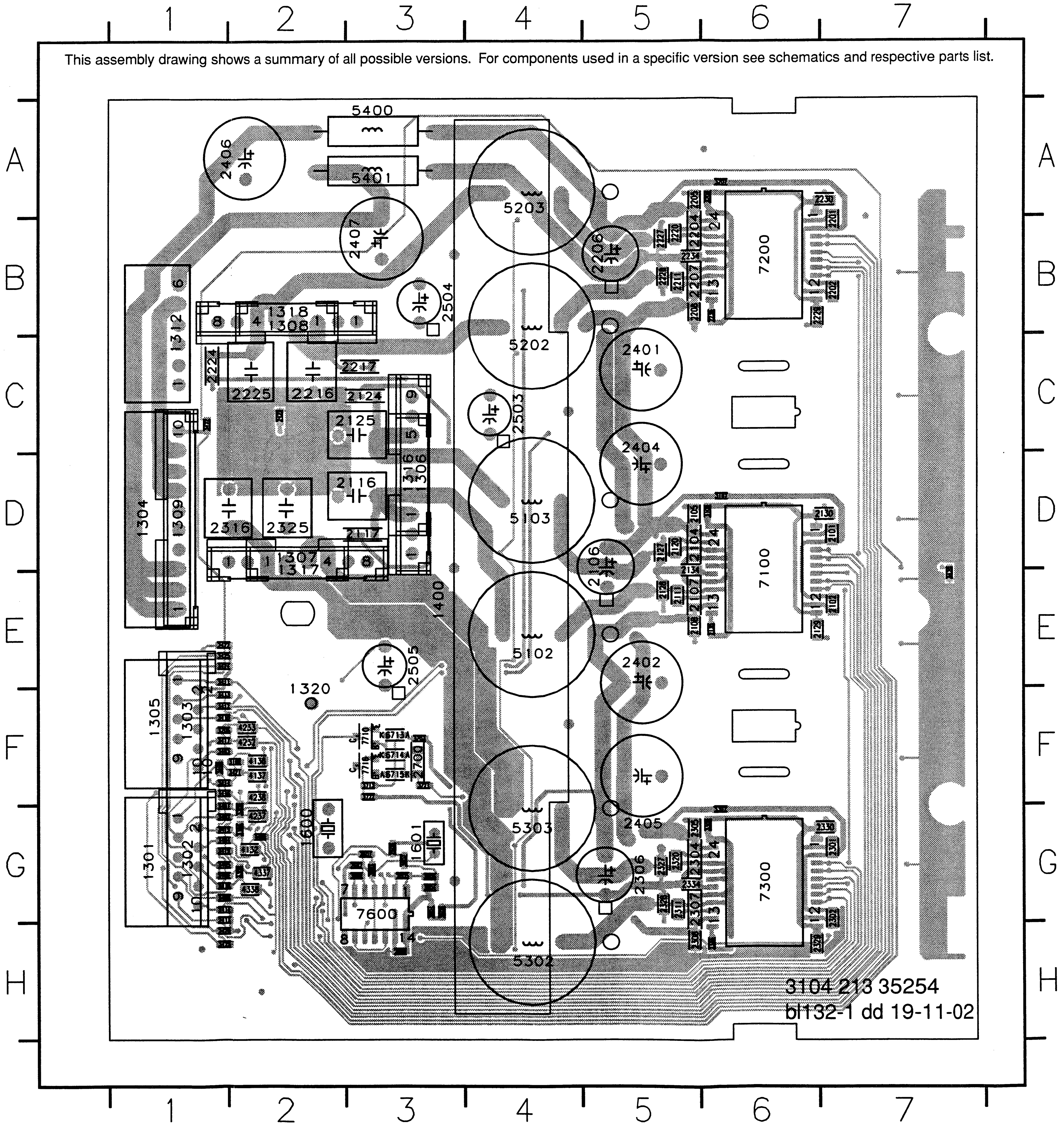
7200	B6
7300	G6
7600	G3
7710	F3
7716	F3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5400
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5202
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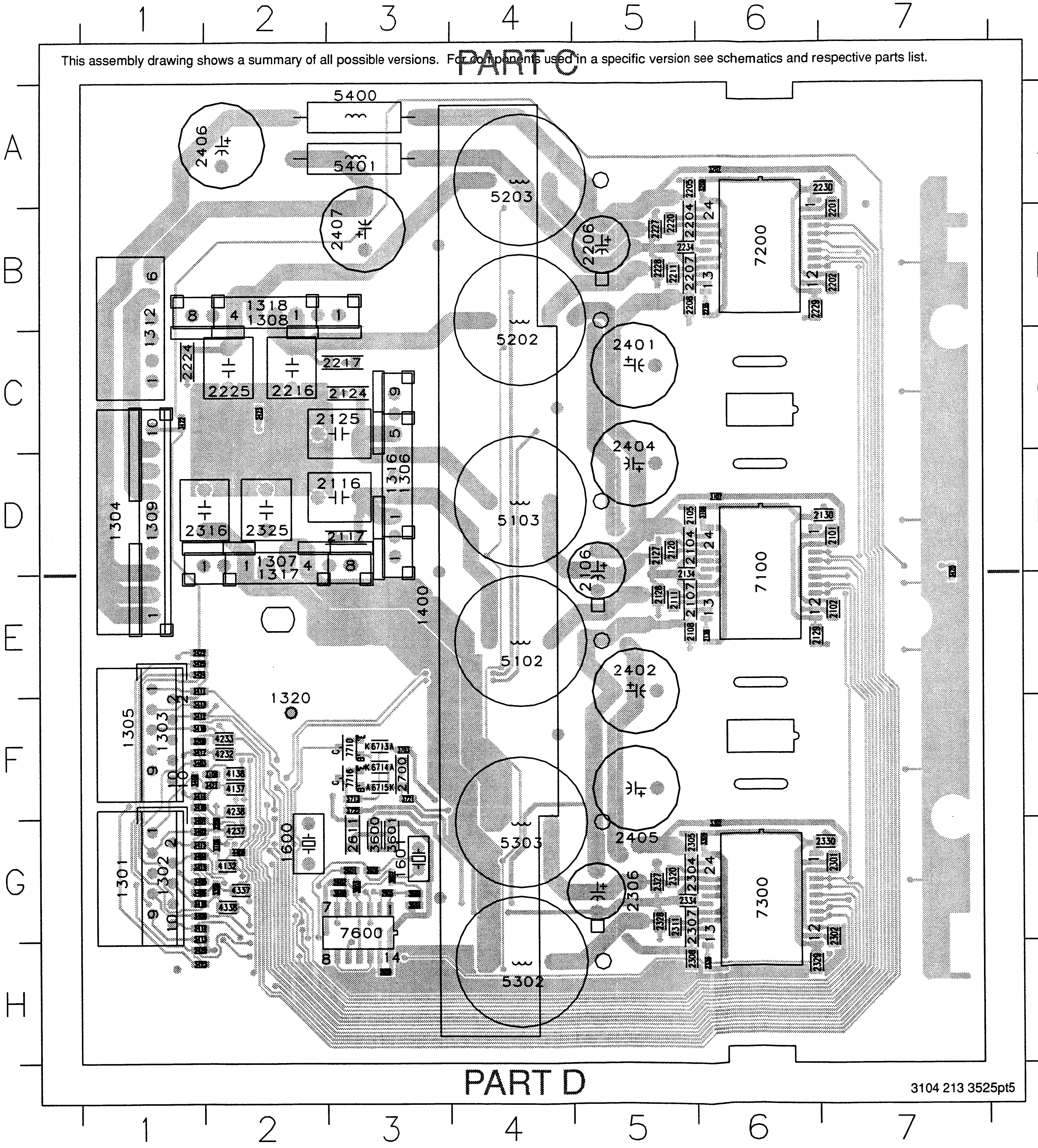
5102
5303
5302
2206
2401
2404
2106
2402
2405
2306
7200
7100
7300
1312
1318
1308
1304
1309
2225
2216
2217
2224
2124
2125
2116
2316
2325
2117
1316
1306
1307
1317
1400
2503
2505
1320
1305
1303
1301
1302
1600
1601
2700
7600
3104 213 35254
bl132-1 dd 19-11-02

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematics and respective parts list.

MPLIFIER BOARD - COMPONENT LAYOUT (pcb layout ... 35255)


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematics and respective parts list.
PART C
PART D
3104 213 3525pt5
1
2
3
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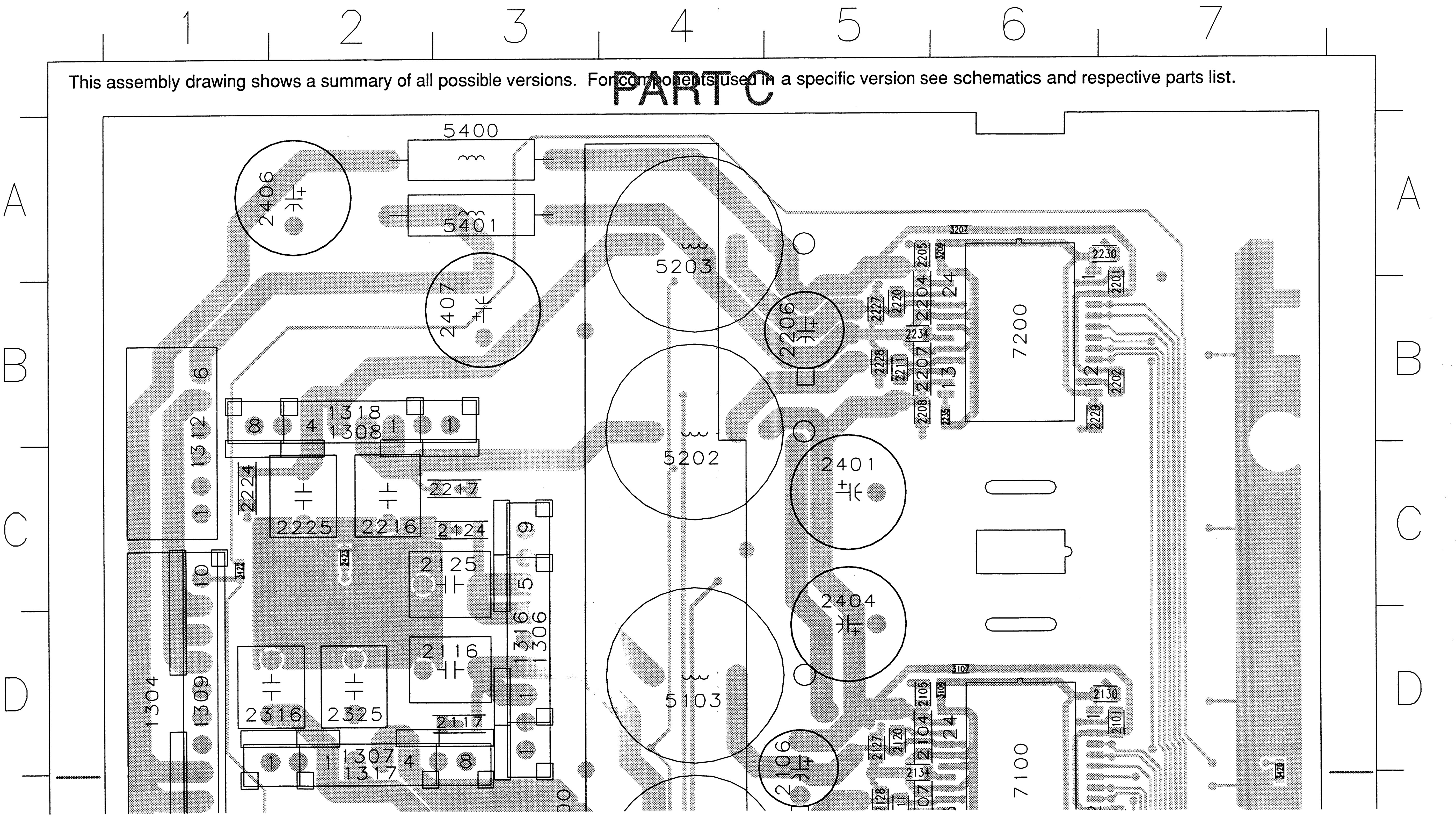
7
A
B
C
D
E
F
G
H
5400
5401
2406
2407
5203
5202
5103
5102
5303
5302
2206
2401
2404
2106
2402
2405
2306
7200
7100
7300
1312
1318
1308
1304
1309
1305
1303
1301
1302
2224
2225
2216
2217
2124
2125
2116
2117
2316
2325
1316
1306
1307
1317
1400
1320
1600
1601
2611
3600
3601
2700
7600
7710
7716
6713A
6714A
6715A
4233
4232
4138
4137
4238
4237
4132
4337
4338

1301	G1	2404	D5	5202	B4
1302	G1	2405	F5	5203	A4
1303	F1	2406	A2	5302	H4
1304	D1	2407	B3	5303	G4
1305	F1	2413	G1	5400	A3
1306	D3	2414	G1	5401	A3
1307	D2	2420	H1	6713	F3
1308	B2	2422	E1	6714	F3
1309	D1	2423	C2	6715	F3
1312	B1	2600	H3	7100	D6
1316	D3	2601	G3	7200	B6
1317	D2	2602	G3	7300	G6
1318	B2	2605	G3	7600	G3
1320	F2	2606	G3	7710	F3
1400	D4	2611	G3	7716	F3
1600	G2	2700	F3		
1601	G3	3106	G2		
2101	D7	3107	D6		
2102	E7	3108	F2		
2104	D5	3109	D6		
2105	D5	3206	F1		
2106	D5	3207	A6		
2107	E5	3208	G2		
2108	E5	3209	A6		
2111	E5	3307	G6		
2116	D3	3308	G2		
2117	D3	3309	G6		
2120	D5	3400	F1		
2124	C3	3401	G1		
2125	C3	3402	G1		
2127	D5	3403	F1		
2128	E5	3404	G1		
2129	E6	3405	G1		
2130	D7	3406	G1		
2134	E5	3408	G1		
2135	E6	3410	F1		
2201	B7	3411	E1		
2202	B7	3412	F1		
2204	B5	3413	F1		
2205	A5	3414	F1		
2206	B5	3415	G1		
2207	B5	3416	F1		
2208	B5	3417	F1		
2211	B5	3418	G1		
2216	C2	3419	G1		
2217	C3	3420	D7		
2220	B5	3421	F2		
2224	C1	3422	C1		
2225	C2	3423	H1		
2227	B5	3424	E1		
2228	B5	3425	E1		
2229	B6	3600	G3		
2230	A7	3601	G3		
2234	B5	3603	G3		
2235	B6	3604	G3		
2301	G7	3606	G3		
2302	G7	3607	G3		
2304	G5	3608	G3		
2305	G5	3703	F3		
2306	G5	3713	F3		
2307	G5	3721	F3		
2308	H5	3722	F3		
2311	G5	4132	G2		
2316	D2	4137	F2		
2320	G5	4138	F2		
2325	D2	4232	F2		
2327	G5	4233	F2		
2328	G5	4237	G2		
2329	H6	4238	F2		
2330	G7	4337	G2		
2334	G5	4338	G2		
2335	H6	4400	G2		
2401	C5	5102	E4		
2402	E5	5103	D4		

AMPLIFIER BOARD - COMPONENT LAYOUT (pcb layout ... 35255) PART C



This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematics and respective parts list.

1
2
3
4
5
6
7
A
B
C
D
PART C
5400
5401
2406
2407
5203
5202
5103
2206
2401
2404
2106
7200
7100
3207
3209
2205
2204
24
2230
2201
2227
2220
2234
2228
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2208
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12
2202
2229
1318
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8
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1
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1312
2224
2225
2216
2217
2124
2125
2116
2117
9
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1316
1306
1304
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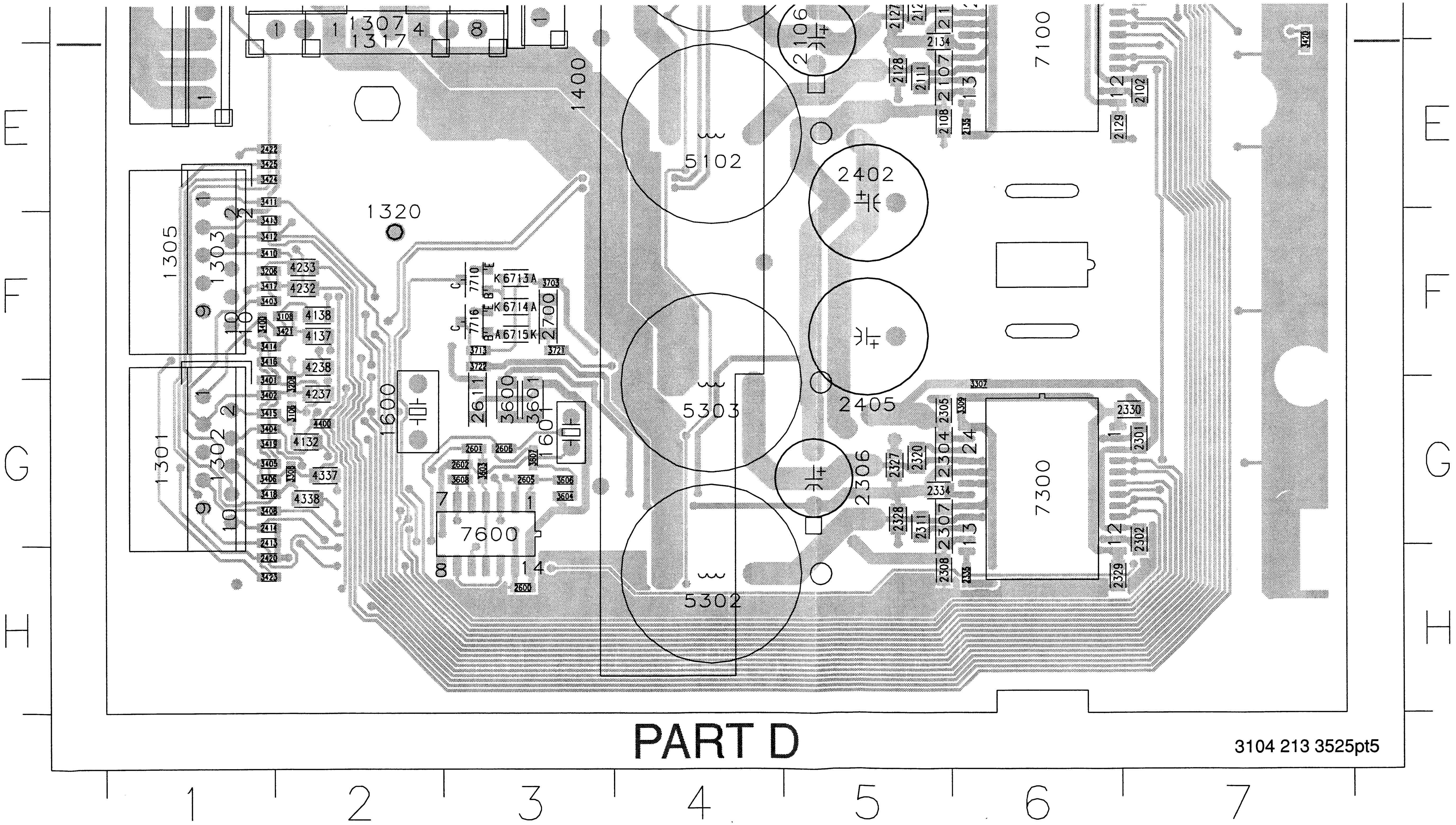
2316
2325
1307
1317
3107
3109
2105
2104
2130
2101
2127
2120
2134
2128

AMPLIFIER BOARD - COMPONENT LAYOUT (pcb layout ... 35255) PART D


E
F
G
H
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7
1307
1317
1400
2106
7100
2127
2128
2111
2107
2108
2134
2135
2129
2102
3420
5102
2402
1320
1305
1303
1301
1302
3422
3425
3424
3411
3413
3412
3410
3206
3417
3403
3108
3421
3416
3401
3402
3415
3404
3419
3405
3406
3418
3408
2414
2413
2420
3423
4233
4232
4138
4137
4238
4237
4400
4132
4337
4338
7710
7716
K6713A
K6714A
A6715K
3703
2700
3713
3721
3722
1600
2611
3600
3601
1601
2601
2606
2602
3608
3603
3602
2605
3606
3604
7600
2600
5303
5302
2405
2306
3307
3309
2305
2330
2301
2327
2320
2304
2334
2328
2311
2307
2308
2335
7300
2302
2329
PART D
3104 213 3525pt5

ELECTRICAL PARTS LIST - MAINS & ECO STBY, SUPPLY, SPEAKER (SPK I) & SW-OUT (SPK II) BOARDS

MISCELLANEOUS

5	4822 492 11735		SPRING, TRANSISTOR	
1200	4822 071 55002	⚠	FUSE T5A 250V	
1203	4822 071 55002	⚠	FUSE T5A 250V	
1204	9965 000 07786	⚠	FUSE T4A 250V	
1205	9965 000 07786	⚠	FUSE T4A 250V	
1263	4822 267 10733		FLEX CONN. 4PIN VERT.	
1270	2422 025 14044		CONN. 6PIN M3.96 VERT.	
1303	2422 015 19885		LOUDSPEAKER SOCKET 12P	
1901	2422 030 00328	⚠	CONN. MAINS 7A 125V	/17/37
1901	4822 265 31015	⚠	CONN. MAINS 2A5 250V	/78
1905	4822 252 51121	⚠	FUSE T3,15A 250V	/17/37
1905	4822 071 53152	⚠	FUSE T3,15A 250V	/78
1907	4822 265 20723		CONN. 2PIN M7.92 VERT.	
1908	4822 267 10958		FLEX CONN. 5PIN HORT.	
1909	4822 267 10728		CONN. 4P M7.92 VH	/78
1910	2422 132 07519	⚠	RELAY 1P 12V 16A	
1911	9965 000 07789	⚠	VOLTAGE SELECTOR	/78
1912	9965 000 07788	⚠	FUSE T3,15A 250V	/78

CAPACITORS

2000	5322 126 11583		10nF 10% 50V
2001	5322 126 11583		10nF 10% 50V
2002	5322 126 11583		10nF 10% 50V
2003	5322 126 11583		10nF 10% 50V
2004	5322 126 11583		10nF 10% 50V
2005	5322 126 11583		10nF 10% 50V
2006	5322 126 11583		10nF 10% 50V
2007	5322 126 11583		10nF 10% 50V
2008	5322 126 11583		10nF 10% 50V
2009	5322 126 11583		10nF 10% 50V
2010	5322 126 11583		10nF 10% 50V
2011	5322 126 11583		10nF 10% 50V
2200	4822 126 12785		47nF +80/-20% 50V
2201	5322 124 40641		10uF 20% 100V
2202	4822 124 80231		47uF 20% 16V
2203	5322 121 42578		100nF 5% 250V
2204	5322 121 42578		100nF 5% 250V
2205	5322 121 42578		100nF 5% 250V
2206	4822 124 80563		4700uF 20% 35V
2207	4822 124 80563		4700uF 20% 35V
2208	5322 121 42661		330nF 5% 63V
2209	5322 121 42578		100nF 5% 250V
2211	4822 124 80563		4700uF 20% 35V
2212	5322 121 42386		100nF 5% 63V
2213	5322 121 42578		100nF 5% 250V
2215	2020 012 93745		10000uF 20% 16V
2217	2020 561 90365		100nF +80/-20% 50V
2218	4822 124 11947		10uF 20% 16V
2219	4822 124 81286		47uF 20% 16V
2220	4822 124 81286		47uF 20% 16V
2222	4822 124 12056		1000uF 20% 35V
2223	4822 124 12056		1000uF 20% 35V
2224	4822 124 41643		100uF 20% 16V
2225	4822 124 41643		100uF 20% 16V
2228	5322 124 40641		10uF 20% 100V
2229	4822 124 12032		4,7uF 20% 50V
2901	2238 586 59812		100nF 50V
2902	4822 121 43526		47nF 5% 250V
2903	3198 017 34730		47nF 16V
2904	2238 586 59812		100nF 50V
2905	5322 126 11583		10nF 10% 50V
2906	2222 336 19106		22nF 20% 275V
2907	4822 124 40255		100uF 20% 63V
2909	5322 126 11583		10nF 10% 50V
2910	2238 586 59812		100nF 50V
2911	4822 124 41751		47uF 20% 50V
2912	4822 124 12379		220uF 20% 25V
2913	2222 338 22474	⚠	470nF 20% 275V
2914	4822 126 13193		4,7nF 10% 63V
2915	2020 554 90173	⚠	2,2nF 20% 250V
2916	2020 554 90173	⚠	2,2nF 20% 250V

RESISTORS

3200	4822 116 52283		4k7 5% 0,5W
3201	4822 051 30272		2k7 5% 0,062W
3202	4822 051 30103		10k 5% 0,062W
3203	4822 051 30103		10k 5% 0,062W
3204	4822 117 12925		47k 1% 0.063W
3205	4822 051 30103		10k 5% 0,062W
3206	4822 051 30681		680R 5% 0,062W
3207	4822 051 30331		330R 5% 0,062W
3208	4822 051 30681		680R 5% 0,062W
3209	4822 051 30472		4k7 5% 0,062W
3216	4822 051 30331		330R 5% 0,062W
3217	4822 051 30682		6k8 5% 0,062W
3218	4822 051 30153		15k 5% 0,062W
3219	4822 051 30102		1k 5% 0,062W
3222	4822 051 30102		1k 5% 0,062W
3223	4822 117 13632		100k 1% 0,062W
3224	4822 116 83872		220R 5% 0,5W
3225	4822 052 10828	⚠	8R2 5% 0,33W
3226	4822 051 30471		470R 5% 0,062W
3227	4822 051 30102		1k 5% 0,062W
3228	4822 117 12063		NTC DC 5W 10k 5%
3229	4822 051 30472		4k7 5% 0,062W
3230	4822 051 30472		4k7 5% 0,062W
3233	4822 117 11817		1k2 5% 0,062W
3234	4822 051 30103		10k 5% 0,062W
3235	4822 051 30103		10k 5% 0,062W
3901	4822 053 21106		10M 5% 0,5W
3902	4822 051 30103		10k 5% 0,062W
3903	4822 051 30475		4M7 5% 0,062W
3904	4822 051 30331		330R 5% 0,062W
3905	4822 051 30331		330R 5% 0,062W
3906	4822 117 13632		100k 1% 0,062W
3907	4822 051 30333		33k 5% 0,062W
3908	4822 051 30105		1M 5% 0,062W
3909	4822 051 30471		470R 5% 0,062W
3910	4822 051 30222		2k2 5% 0,062W
3911	4822 117 13632		100k 1% 0,062W
3913	4822 117 12925		47k 1% 0.063W
3914	4822 117 12925		47k 1% 0.063W
3915	4822 053 21106		10M 5% 0,5W
3916	4822 051 30334		330k 5% 0,062W
3917	4822 116 52175		100R 5% 0,5W
3918	4822 116 52175		100R 5% 0,5W
3919	4822 051 30152		1k5 5% 0,062W
3920	4822 051 30472		4k7 5% 0,062W
4210	4822 051 30008		0R JUMPER 0603
4211	4822 051 30008		0R JUMPER 0603
4212	4822 051 30008		0R JUMPER 0603

ELECTRICAL PARTS LIST - MAINS & ECO STBY, SUPPLY, SPEAKER (SPK I) & SW-OUT (SPK II) BOARDS

COILS & FILTERS

5901	4822 157 11832	MAINS FILTER 400uH
5902	4822 157 53473	IND. FXD. 1000uH 10%
5903	4822 157 53473	IND. FXD. 1000uH 10%
5904	4822 157 11228	IND. FXD. 100uH 5%
5905	2422 549 45157	STANDBY TRANSFORMER

DIODES

6200	4822 130 30621	1N4148
6201	3198 010 52790	BZX79-B27
6202	4822 130 31878	1N4003G
6203	4822 130 34382	BZX79-B8V2
6205	3198 010 52790	BZX79-B27
6208	4822 130 11397	BAS316
6209	4822 130 11397	BAS316
6211	4822 130 11139	GBU8D
6212	3198 010 10640	GBU4K
6214	4822 130 30621	1N4148
6215	4822 130 34174	BZX79-B4V7
6216	4822 130 34145	BZX79-B39
6217	4822 130 31878	1N4003G
6218	4822 130 34145	BZX79-B39
6901	4822 130 31878	1N4003G
6902	4822 130 31878	1N4003G
6903	4822 130 11397	BAS316
6904	4822 130 11397	BAS316
6905	4822 130 11397	BAS316
6906	4822 130 31878	1N4003G
6907	4822 130 11397	BAS316
6908	4822 130 30621	1N4148
6909	4822 130 11397	BAS316
6910	4822 130 11397	BAS316
6911	4822 130 11397	BAS316
6912	4822 130 31878	1N4003G
6914	4822 130 11397	BAS316
6915	4822 130 34173	BZX79-C5V6
6916	4822 130 31878	1N4003G
6917	4822 130 34145	BZX79-B39
6918	4822 130 11397	BAS316
6919	4822 130 11397	BAS316
6920	4822 130 11397	BAS316
6921	4822 130 11397	BAS316

TRANSISTORS & INTEGRATED CIRCUITS

7200	9340 561 95127	BUK7535-55A
7202	9340 561 95127	BUK7535-55A
7203	5322 130 60159	BC847B
7205	4822 130 60373	BC857B
7206	4822 130 60373	BC857B
7207	5322 130 60159	BC847B
7208	4822 209 33575	L7812CP
7209	4822 209 12335	L4941
7210	4822 130 41246	BC327-25
7211	9340 218 60115	BC857CW
7901	4822 130 60373	BC857B
7902	4822 130 40855	BC337-40
7904	4822 130 42615	BC817-40
7905	4822 130 41327	BC327-40
7906	4822 130 42804	BC817-25

Note: Only the parts mentioned in this list are normal service spare parts.

LECTRICAL PARTS LIST - AMPLIFIER BOARD

ISCELLANEOUS

008	3104 211 29861	SPRING 6 CHANNEL
010	3104 211 29881	EARTH SPRING
302	4822 267 10729	FLEX CONN. 10PIN VERT.
303	4822 267 10729	FLEX CONN. 10PIN VERT.
600	2422 540 98514	CERAM RESONATOR 602,7KHZ
601	2422 540 98568	CERAM RESONATOR 700KHZ

APACITORS

101	2222 580 15649	100nF 10% 50V
102	2222 580 15649	100nF 10% 50V
104	2222 601 55649	100nF 10% 100V
105	2222 580 15649	100nF 10% 50V
106	2020 021 91431	22uF 20% 100V
107	2222 601 55649	100nF 10% 100V
108	2222 580 15649	100nF 10% 50V
111	4822 126 13188	15nF 5% 63V
114	5322 116 80853	560pF 5% 63V
115	5322 116 80853	560pF 5% 63V
116	4822 121 51252	470nF 5% 63V
117	2222 601 55649	100nF 10% 100V
120	4822 126 13188	15nF 5% 63V
122	5322 116 80853	560pF 5% 63V
124	2222 601 55649	100nF 10% 100V
125	4822 121 51252	470nF 5% 63V
126	5322 116 80853	560pF 5% 63V
127	2222 580 15649	100nF 10% 50V
128	2222 580 15649	100nF 10% 50V
129	2222 580 15649	100nF 10% 50V
130	2222 580 15649	100nF 10% 50V
131	4822 126 14241	330pF 50V
134	2238 780 55654	220nF 10% 16V
135	4822 126 13956	68pF 5% 63V
136	4822 126 14241	330pF 50V
201	2222 580 15649	100nF 10% 50V
202	2222 580 15649	100nF 10% 50V
204	2222 601 55649	100nF 10% 100V
205	2222 580 15649	100nF 10% 50V
206	2020 021 91431	22uF 20% 100V
207	2222 601 55649	100nF 10% 100V
208	2222 580 15649	100nF 10% 50V
211	4822 126 13188	15nF 5% 63V
214	5322 116 80853	560pF 5% 63V
215	5322 116 80853	560pF 5% 63V
216	4822 121 51252	470nF 5% 63V
217	2222 601 55649	100nF 10% 100V
220	4822 126 13188	15nF 5% 63V
222	5322 116 80853	560pF 5% 63V
224	2222 601 55649	100nF 10% 100V
225	4822 121 51252	470nF 5% 63V
226	5322 116 80853	560pF 5% 63V
227	2222 580 15649	100nF 10% 50V
228	2222 580 15649	100nF 10% 50V
2229	2222 580 15649	100nF 10% 50V
2230	2222 580 15649	100nF 10% 50V
2231	4822 126 14241	330pF 50V
2234	2238 780 55654	220nF 10% 16V
2235	4822 126 13956	68pF 5% 63V
2236	4822 126 14241	330pF 50V
2301	2222 580 15649	100nF 10% 50V
2302	2222 580 15649	100nF 10% 50V
2304	2222 601 55649	100nF 10% 100V
2305	2222 580 15649	100nF 10% 50V
2306	2020 021 91431	22uF 20% 100V
2307	2222 601 55649	100nF 10% 100V
2308	2222 580 15649	100nF 10% 50V
2311	4822 126 13188	15nF 5% 63V
2314	5322 116 80853	560pF 5% 63V
2315	5322 116 80853	560pF 5% 63V
2316	4822 121 51252	470nF 5% 63V
2317	2222 601 55649	100nF 10% 100V
2320	4822 126 13188	15nF 5% 63V
2322	5322 116 80853	560pF 5% 63V
2324	2222 601 55649	100nF 10% 100V
2325	4822 121 51252	470nF 5% 63V
2326	5322 116 80853	560pF 5% 63V
2327	2222 580 15649	100nF 10% 50V
2328	2222 580 15649	100nF 10% 50V
2329	2222 580 15649	100nF 10% 50V
2330	2222 580 15649	100nF 10% 50V
2331	4822 126 14241	330pF 50V
2334	2238 780 55654	220nF 10% 16V
2335	4822 126 13956	68pF 5% 63V
2336	4822 126 14241	330pF 50V
2400	2222 580 15649	100nF 10% 50V
2401	4822 124 80062	470uF 20% 35V
2402	4822 124 80062	470uF 20% 35V
2403	2222 580 15649	100nF 10% 50V
2404	4822 124 80062	470uF 20% 35V
2405	4822 124 80062	470uF 20% 35V
2406	4822 123 14026	470uF 20% 35V
2407	4822 123 14026	470uF 20% 35V
2408	5322 126 11578	1nF 10% 50V
2409	5322 126 11578	1nF 10% 50V
2410	5322 126 11578	1nF 10% 50V
2411	5322 126 11578	1nF 10% 50V
2412	5322 126 11578	1nF 10% 50V
2413	5322 126 11578	1nF 10% 50V
2414	5322 126 11578	1nF 10% 50V
2415	5322 126 11578	1nF 10% 50V
2416	5322 126 11578	1nF 10% 50V
2417	5322 126 11578	1nF 10% 50V
2418	5322 126 11578	1nF 10% 50V
2419	2238 586 59812	100nF 50V
2420	5322 126 11578	1nF 10% 50V

ELECTRICAL PARTS LIST - AMPLIFIER BOARD

2421	5322 126 11578	1nF 10% 50V
2422	5322 126 11578	1nF 10% 50V
2423	2238 586 59812	100nF 50V
2425	5322 126 11578	1nF 10% 50V
2500	2238 586 59812	100nF 50V
2501	2238 586 59812	100nF 50V
2600	2238 586 59812	100nF 50V
2602	2020 552 94427	100pF 5% 50V
2603	2020 552 94427	100pF 5% 50V
2604	2238 586 59812	100nF 50V
2605	4822 126 13881	470pF 5% 50V
2606	5322 126 11578	1nF 10% 50V
2607	2020 552 94427	100pF 5% 50V
2608	2020 552 94427	100pF 5% 50V
2611	2020 552 96507	10uF +80/-20% 10V
2700	2020 552 96507	10uF +80/-20% 10V

RESISTORS

3100	4822 051 10568	5R6 5% 0,25W
3101	4822 051 10568	5R6 5% 0,25W
3102	4822 051 10568	5R6 5% 0,25W
3103	2322 762 60229	22R 5% PRC221
3104	2322 762 60229	22R 5% PRC221
3105	4822 051 10568	5R6 5% 0,25W
3107	4822 051 30109	10R 5% 0,062W
3109	4822 051 30109	10R 5% 0,062W
3200	4822 051 10568	5R6 5% 0,25W
3201	4822 051 10568	5R6 5% 0,25W
3202	4822 051 10568	5R6 5% 0,25W
3203	2322 762 60229	22R 5% PRC221
3204	2322 762 60229	22R 5% PRC221
3205	4822 051 10568	5R6 5% 0,25W
3207	4822 051 30109	10R 5% 0,062W
3209	4822 051 30109	10R 5% 0,062W
3300	4822 051 10568	5R6 5% 0,25W
3301	4822 051 10568	5R6 5% 0,25W
3302	4822 051 10568	5R6 5% 0,25W
3303	2322 762 60229	22R 5% PRC221
3304	2322 762 60229	22R 5% PRC221
3305	4822 051 10568	5R6 5% 0,25W
3307	4822 051 30109	10R 5% 0,062W
3309	4822 051 30109	10R 5% 0,062W
3401	4822 051 30562	5k6 5% 0,063W
3404	4822 051 30221	220R 5% 0,062W
3405	4822 051 30562	5k6 5% 0,063W
3408	4822 051 30221	220R 5% 0,062W
3410	4822 051 30562	5k6 5% 0,063W
3411	4822 051 30562	5k6 5% 0,063W
3412	4822 051 30221	220R 5% 0,062W
3413	4822 051 30562	5k6 5% 0,063W
3414	4822 051 30562	5k6 5% 0,063W
3415	4822 051 30562	5k6 5% 0,063W
3420	2322 615 23103	NTC 10k 5% 0,125W
3421	4822 051 30562	5k6 5% 0,063W
3422	4822 051 30101	100R 5% 0,062W
3423	4822 051 30562	5k6 5% 0,063W
3424	4822 051 30562	5k6 5% 0,063W
3425	4822 051 30562	5k6 5% 0,063W
3426	4822 051 30562	5k6 5% 0,063W
3600	4822 051 10821	820R 5% 0,062W
3601	4822 051 10821	820R 5% 0,062W
3602	4822 117 13632	100k 1% 0,062W
3604	4822 051 30103	10k 5% 0,062W
3605	4822 051 30682	6k8 5% 0,062W
3606	4822 117 13632	100k 1% 0,062W
3607	4822 051 30102	1k 5% 0,062W
3608	4822 051 30105	1M 5% 0,062W
3609	4822 117 13632	100k 1% 0,062W
3610	4822 117 12139	22R 5% 0,062W
3700	4822 117 12925	47k 1% 0.063W
3701	4822 117 12925	47k 1% 0.063W
3703	4822 117 12925	47k 1% 0.063W
3709	4822 117 12925	47k 1% 0.063W
3712	4822 117 12925	47k 1% 0.063W
3713	4822 051 30103	10k 5% 0,062W
3716	4822 117 12925	47k 1% 0.063W
3718	4822 117 12925	47k 1% 0.063W
3721	4822 051 30103	10k 5% 0,062W
3722	4822 051 30103	10k 5% 0,062W
4132	4822 126 14583	470nF 16V
4133	4822 126 14583	470nF 16V
4137	4822 126 14583	470nF 16V
4138	4822 126 14583	470nF 16V
4232	4822 126 14583	470nF 16V
4233	4822 126 14583	470nF 16V
4237	4822 126 14583	470nF 16V
4238	4822 126 14583	470nF 16V
4332	4822 126 14583	470nF 16V
4333	4822 126 14583	470nF 16V
4337	4822 126 14583	470nF 16V
4338	4822 126 14583	470nF 16V

COILS & FILTERS

5102	2422 536 00496	IND. FXD. 22uH 10%
5103	2422 536 00496	IND. FXD. 22uH 10%
5202	2422 536 00496	IND. FXD. 22uH 10%
5203	2422 536 00496	IND. FXD. 22uH 10%
5302	2422 536 00496	IND. FXD. 22uH 10%
5303	2422 536 00496	IND. FXD. 22uH 10%
5400	4822 157 11411	FXD. IND. BEAD 100MHZ 80R
5401	4822 157 11411	FXD. IND. BEAD 100MHZ 80R

ELECTRICAL PARTS LIST - AMPLIFIER BOARD

DIODES

6600	3198 020 55680	BZX384-C5V6
6713	4822 130 11397	BAS316
6714	4822 130 11397	BAS316
6715	4822 130 11397	BAS316

TRANSISTORS & INTEGRATED CIRCUITS

7100	9352 705 74518	TDA8920TH/N1R
7200	9352 705 74518	TDA8920TH/N1R
7300	9352 705 74518	TDA8920TH/N1R
7600	5322 209 11517	PC74HCU04T
7602	5322 130 60159	BC847B
7607	5322 209 14477	HEF4013BT
7608	4822 130 60373	BC857B
7710	5322 130 60159	BC847B
7716	4822 130 60373	BC857B

Note: Only the parts mentioned in this list are normal service spare parts.

AV BOARD

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BRIEF INTRODUCTION OF THE AV BOARD

The AV Board consists of the following features :

a. IC 7130 (TDA7468D)

IC 7130 provides the source selection (TUNER, TV/AV Digital in, DVD/CD & AUX) and basic sound processing - bass, treble, volume & mute controls for the Front L/R loudspeakers.

Note: Although provided for, the AUX source (pin 3 and 26) are never selected & instead and additional IC 7422 (HEF4052BT) is used to include a TV in from the Scart connector socket.

Sound features are controlled by the microprocessor IC on the Front Board via I^2C Bus.

Undesirable noise during source switching are muted off via the software of the microprocessor IC on the Front Board.

b. IC 7422 (HEF4052BT)

This IC allows the additon of another TV source via the SCART connector socket. The output MUX_L/MUX_R will go to pin 4 and 25 of IC 7130.

c. Line out mute

Line out mute is done via the transistors 7100, 7132, 7133 and 7150 during Power up/down, Source and sound switching (MUTE-LO, active low) and Disc & Digital in modes (MUTE_AV, active high).

d. Headphone amplifier / pre-amplifier

IC 7230 (NJM4556AM) is used as headphone amplifer and pre-amplification for the Front L/R signal to the Amplifier board. The transistors matrix 7200, 7231, 7232, 7233 and 7250 allows the heaphone out to be muted when inserting the headphone

e. IC 7304 and 7330 (TDA7468D)

IC 7304 and 7330 provides creation of matrix sound (via Line-L/R from IC 7130) during non-DVD source and sound processing - bass, treble, volume & mute controls for the Center/Subwoofer and Surround L/R loudspeakers respectively.

Sound features are controlled by the microprocessor IC on the Front Board via I^2C Bus.

Undesirable noise during source switching are muted off via the software of the microprocessor IC on the Front Board.

f. IC 7352 (74HC4051D)

This multiplexer output (MUX_DET) informs the microprocess IC on the Front Board on the type of connection & condition the set is in.

g. IC 7402 (M62320FP)

The IC serves as I^2C Expander to provide for additional control lines required.

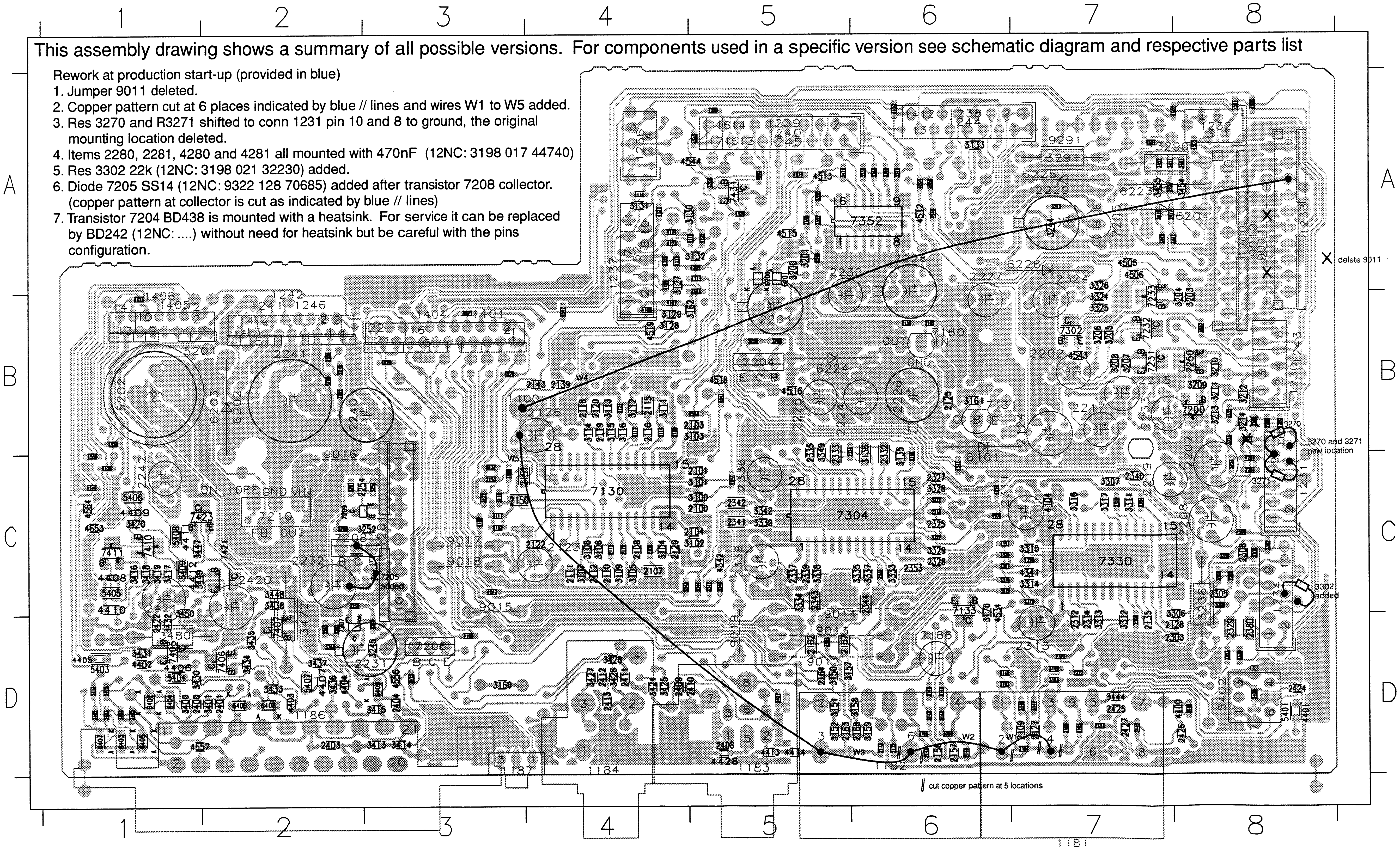
CHIP & COMPONENT LAYOUTS - CHIP SIDE VIEW

2100 C5	2121 B4	2162 D5	2309 D7	2337 C5	2411 D4	3107 C4	3136 C6	3164 D7	3224 C8	3305 C8	3328 C6	3369 A6	3427 D4	3451 A8	4191 C6	4406 D1	4507 B8	4541 B5	5405 C1	7231 B7
2101 C5	2122 C4	2163 D5	2310 C7	2339 C5	2412 D4	3108 C4	3137 C3	3165 D6	3225 B8	3306 D8	3329 C6	3370 A6	3428 D4	3452 A7	4192 C3	4407 D2	4508 C8	4542 C3	5406 C1	7232 B7
2103 B5	2125 B6	2164 D5	2312 D7	2340 C7	2413 D4	3109 C4	3140 D6	3166 D6	3243 A7	3307 C7	3333 C6	3400 D1	3430 D1	3454 A8	4195 D7	4408 C1	4509 C6	4543 B7	5407 D2	7233 B7
2104 C5	2127 D7	2167 D5	2314 D7	2341 C5	2414 D1	3110 C3	3142 D6	3170 C6	3244 A7	3308 C8	3334 C5	3401 D2	3431 D1	3455 A7	4200 A5	4409 C1	4510 C6	4544 A5	5408 C1	7250 B8
2105 B4	2128 D8	2168 D6	2318 C6	2342 C5	2415 D1	3111 B4	3143 D6	3200 A5	3245 D3	3311 C7	3335 C6	3402 D1	3432 D1	3473 D3	4201 A6	4410 C1	4511 C6	4545 A5	5409 C1	7302 B7
2106 C4	2129 C4	2169 B6	2319 C7	2343 C5	2417 A7	3112 B4	3145 D6	3201 A5	3250 C2	3312 D7	3336 C8	3403 D1	3433 D2	3474 A5	4202 A6	4411 C1	4512 A6	4546 A5	6200 A5	7304 C6
2107 C4	2135 D7	2170 C4	2320 C7	2344 C6	2418 A7	3113 B4	3146 D7	3202 B2	3252 C3	3313 D7	3337 C6	3404 D1	3434 D2	4104 C7	4203 A5	4412 C1	4513 A5	4547 B4	6201 A5	7330 C7
2108 C4	2136 B6	2171 D7	2321 D7	2349 A5	2422 D1	3114 B4	3147 D7	3203 B8	3254 C3	3314 C7	3338 C5	3405 D1	3435 D2	4107 B4	4204 A5	4413 D5	4514 A5	4548 B5	6402 D1	7352 A6
2109 D7	2139 B4	2172 D6	2322 D7	2352 C8	2424 D8	3115 B4	3148 D6	3204 B8	3259 B5	3315 C7	3339 C5	3411 A7	3436 D2	4108 B4	4205 B2	4414 D5	4515 A5	4549 A6	6403 D1	7405 D1
2110 C4	2143 B4	2173 D6	2325 C6	2353 C6	2425 D7	3116 B4	3149 D7	3205 B7	3260 D3	3316 C7	3340 C5	3413 D3	3437 D2	4109 A4	4206 B2	4415 B1	4516 B5	4556 D3	6404 D1	7406 D2
2111 C4	2144 D6	2174 D7	2326 C6	2380 D8	2426 D8	3117 C3	3150 D5	3206 B7	3261 C2	3317 C7	3342 C5	3414 D3	3438 C2	4110 A6	4280 B8	4416 C1	4517 C5	4557 D1	6405 D1	7407 D2
2112 C4	2145 D6	2199 D3	2327 C6	2400 D1	2427 D7	3122 C3	3151 D5	3207 B7	3262 D2	3318 C6	3343 C4	3415 D3	3441 A8	4111 A5	4281 C8	4420 A5	4518 B5	4564 C1	6406 D2	7410 C1
2113 C4	2150 C3	2254 C2	2328 C6	2401 D2	2428 D8	3127 A4	3152 D5	3208 B7	3263 D2	3319 C6	3344 C5	3416 C1	3442 A7	4112 A5	4341 C7	4428 D5	4519 B4	4579 B3	6407 D1	7411 C1
2114 B4	2151 C3	2280 B8	2329 D8	2402 A7	3100 C5	3128 B4	3157 D5	3209 B8	3265 B5	3320 C6	3347 C5	3417 C1	3444 D7	4113 A4	4342 C5	4500 A8	4520 B3	4585 D5	6408 D2	7421 C2
2115 B4	2152 C3	2281 C8	2330 D8	2403 D2	3101 C5	3129 B4	3158 D6	3210 B8	3268 D2	3321 C6	3349 B5	3418 C1	3445 D7	4114 A4	4400 D8	4501 A8	4521 B3	4593 A5	6409 D3	7423 C1
2116 B4	2153 C3	2302 C8	2331 C6	2404 D3	3102 C5	3130 A5	3159 D6	3211 B8	3269 C2	3322 C6	3355 A5	3419 C1	3446 D8	4115 A4	4401 D8	4502 A8	4534 C6	4598 C3	7130 C4	7431 A5
2117 B4	2156 D6	2303 D8	2332 C6	2407 D5	3103 B5	3131 A4	3160 D3	3212 B8	3270 B8	3324 B7	3356 A5	3420 C1	3447 C1	4121 A4	4402 D1	4503 A8	4537 B8	4653 C1	7133 C6	
2118 B4	2157 D6	2304 C7	2333 C5	2408 D5	3104 C4	3132 A5	3161 B6	3213 B8	3271 B8	3325 B7	3357 A5	3424 D4	3448 C2	4122 A5	4403 D2	4504 A7	4538 B1	5401 D8	7200 B8	
2119 B4	2160 D7	2305 C8	2334 B5	2409 D4	3105 C4	3133 A6	3162 B5	3214 B8	3303 D8	3326 A7	3359 A6	3425 D4	3449 C1	4123 A4	4404 D2	4505 A7	4539 C1	5403 D1	7207 D2	
2120 B4	2161 D7	2308 C8	2335 B5	2410 D5	3106 C4	3135 C6	3163 D6	3215 B2	3304 C8	3327 C6	3368 A6	3426 D4	3450 C1	4124 A4	4405 D1	4506 A7	4540 C1	5404 D1	7209 C2	

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list

Rework at production start-up (provided in blue)

1. Jumper 9011 deleted.
2. Copper pattern cut at 6 places indicated by blue // lines and wires W1 to W5 added.
3. Res 3270 and R3271 shifted to conn 1231 pin 10 and 8 to ground, the original mounting location deleted.
4. Items 2280, 2281, 4280 and 4281 all mounted with 470nF (12NC: 3198 017 44740)
5. Res 3302 22k (12NC: 3198 021 32230) added.
6. Diode 7205 SS14 (12NC: 9322 128 70685) added after transistor 7208 collector. (copper pattern at collector is cut as indicated by blue // lines)
7. Transistor 7204 BD438 is mounted with a heatsink. For service it can be replaced by BD242 (12NC: ....) without need for heatsink but be careful with the pins configuration.



1100 B3
[illegible]
9291 A7

HIP & COMPONENT LAYOUTS - CHIP SIDE VIEW (pcb layout ... 35006)

2100	C5
2101	C5
2103	B5
2104	C5
2105	B4
2106	C4
2107	C4
2108	C4
2109	D7
2110	C4
2111	C4
2112	C4
2113	C4
2114	B4
2115	B4
2116	B4
2117	B4
2118	B4
2119	B4
2120	B4
2121	B4
2122	C4
2125	B6
2127	D7
2128	D7
2129	C4
2136	B4
2139	B4
2143	B4
2144	D6
2145	D6
2150	C3
2151	C3
2152	C3
2153	B3
2156	D6
2157	D6
2160	D7
2161	D7
2162	D5
2163	D5
2164	D5
2167	D6
2168	D6
2170	C4
2171	D7
2172	D6
2173	D6
2174	D7
2179	C3
2180	B4
2181	D5
2182	C5
2183	C5
2184	D5
2192	B4
2193	C3
2194	C3
2195	B4
2198	C4
2199	C4
2254	C2
2280	B8
2281	C8
2282	B8
2283	C8
2301	C8
2302	C8
2303	D7
2304	C7
2305	D8
2308	C8
2309	D7
2310	C7
2312	D7
2314	D7
2317	C6
2318	C6
2319	C7
2320	C6
2321	D7
2322	D7
2325	C6
2326	C6
2327	C6
2328	C6
2331	C6
2332	C6
2333	C5
2334	C6
2335	B5
2337	C5
2339	C5
2340	C7
2341	C5
2342	C5
2343	C5
2344	C6
2349	A5
2351	C8
2352	C8
2353	C6
2390	C7
2391	C7
2392	C7
2393	D7
2396	C5
2397	C5
2400	D1
2401	D1
2402	A7
2403	D2
2404	D3
2405	D1
2406	D1
2407	D5
2408	D5
2409	D4
2410	D5
2411	D4
2412	D4
2413	D4
2414	D1
2415	D1
2417	A7
2418	A7
2422	C1
2423	D7
2424	D8
2425	D7
2426	D8
2427	D7
2428	D8
2429	D7
2445	B1
2446	C1
2447	C1
2455	D2
2456	D2
2457	D2
2459	D2
2460	D2
3100	C5
3101	C5
3102	C5
3103	B5
3104	C4
3105	C4
3106	C4
3107	C4
3108	C4
3109	C4
3110	C3
3111	B4
3112	B4
3113	B4
3114	B4
3115	B4
3116	B4
3117	C3
3122	C3
3127	A4
3128	A4
3129	B4
3130	A4
3131	A4
3132	A4
3133	A6
3135	C6
3137	B3
3140	D6
3142	D6
3143	D6
3145	D6
3146	D7
3147	D7
3148	D6
3149	D7
3150	D5
3151	D5
3152	D5
3154	D6
3157	D5
3158	D5
3159	D6
3160	D3
3161	B6
3162	B4
3163	D6
3164	D7
3165	D6
3166	D6
3170	C6
3200	A5
3201	A5
3202	B2
3203	B8
3204	B8
3205	B7
3206	B7
3207	B7
3208	B7
3209	B8
3210	B8
3211	B8
3212	B8
3213	B8
3214	B8
3215	B2
3224	C8
3225	B8
3243	A7
3244	A7
3245	D3
3250	C2
3252	C3
3254	C3
3259	B5
3260	D3
3261	C2
3262	C3
3263	C3
3265	B5
3268	C3
3269	C2
3270	B8
3271	B8
3304	D8
3305	D8
3306	D7
3307	C7
3308	C8
3310	D7
3311	C7
3312	D7
3313	D7
3314	C7
3315	C7
3316	C7
3317	C7
3318	C6
3319	C6
3320	C6
3321	C6
3322	C6
3324	B7
3325	B7
3326	B7
3327	C6
3328	C6
3329	C6
3333	C6
3334	C5
3335	C6
3336	C8
3337	C6
3338	C5
3339	C5
3340	C5
3341	C5
3342	C5
3343	C4
3344	C5
3347	C5
3349	B5
3355	A5
3356	A5
3357	A5
3359	A6
3368	A6
3369	A6
3370	A6
3400	D1
3401	D1
3402	D1
3403	D1
3404	D1
3405	D1
3411	A7
3413	D3
3414	D3
3415	D2
3416	C1
3417	C1
3418	C1
3419	C1
3420	C1
3421	B7
3422	A7
3424	D4
3425	D4
3426	D4
3427	D4
3428	D4
3430	D2
3431	D1
3432	C2
3433	D2
3434	D2
3435	D2
3436	D2
3437	D2
3438	D2
3441	A8
3442	A7
3444	D7
3445	D7
3446	D8
3447	C1
3448	C1
3449	C1
3450	C1
3451	A8
3452	A7
3454	A8
3455	A7
3474	A5
3481	D1
3482	D1
3483	D2
3484	C2
3485	C2
3486	C2
3487	C1
3488	C1
4104	C7
4116	D5
4119	C3
4120	B4
4191	C6
4192	C3
4193	B8
4194	B8
4195	D7
4196	D7
4197	B1
4198	D6
4200	A5
4201	A6
4205	B2
4206	B2
4209	B8
4280	B8
4281	C8
4341	C7
4342	C5
4400	D8
4402	D2
4403	D2
4404	D2
4408	C1
4409	C1
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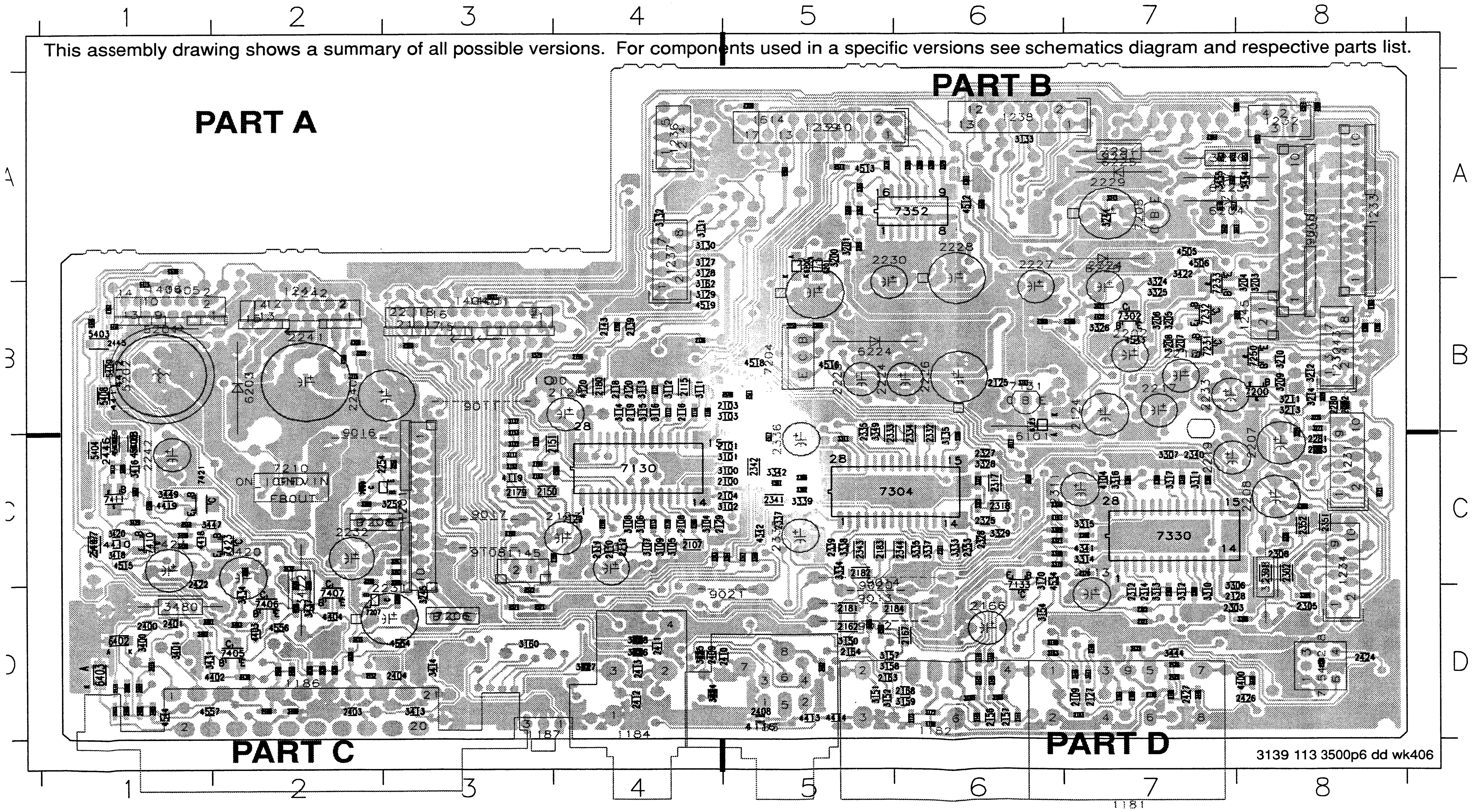
4412	B1
4413	D5
4414	D5
4415	B1
4416	B1
4418	C1
4419	C1
4421	C8
4422	B7
4424	D4
4425	D4
4426	D4
4427	D4
4428	D4
4430	D2
4433	D2
4436	D2
4500	A8
4501	A8
4502	A8
4503	A8
4504	A7
4505	A7
4506	A7
4507	B8
4508	C1
4510	C6
4511	C6
4512	A6
4513	A5
4514	A5
4515	C1
4516	B5
4517	C5
4518	B5
4519	B4
4520	B3
4521	B3
4528	D2
4534	C6
4539	A1
4540	C1
4541	B5
4542	D3
4543	B7
4544	D1
4546	B1
4548	B5
4549	A6
4556	D2
4557	D1
4561	C5
4564	D3
4565	B7
4568	B6
4569	D5
4571	D3
4574	D3
4579	B3
4585	D5
4593	A5
4598	C4
5403	B1
5404	C1
5405	C1
5406	C1
5407	C1
5408	B1
5409	B1
6123	B6
6200	A5
6201	A5
6402	D1
6403	D1
7130	C4
7133	C6
7200	B8
7207	D2
7209	C2
7231	B7
7232	B7
7233	B7
7250	B8
7302	B7
7304	C6
7330	C7
7352	A6
7405	D2
7406	D2
7407	D2
7410	C1
7411	C1
7421	C1
7423	C2

This assembly drawing shows a summary of all possible versions. For components used in a specific versions see schematics diagram and respective parts list.

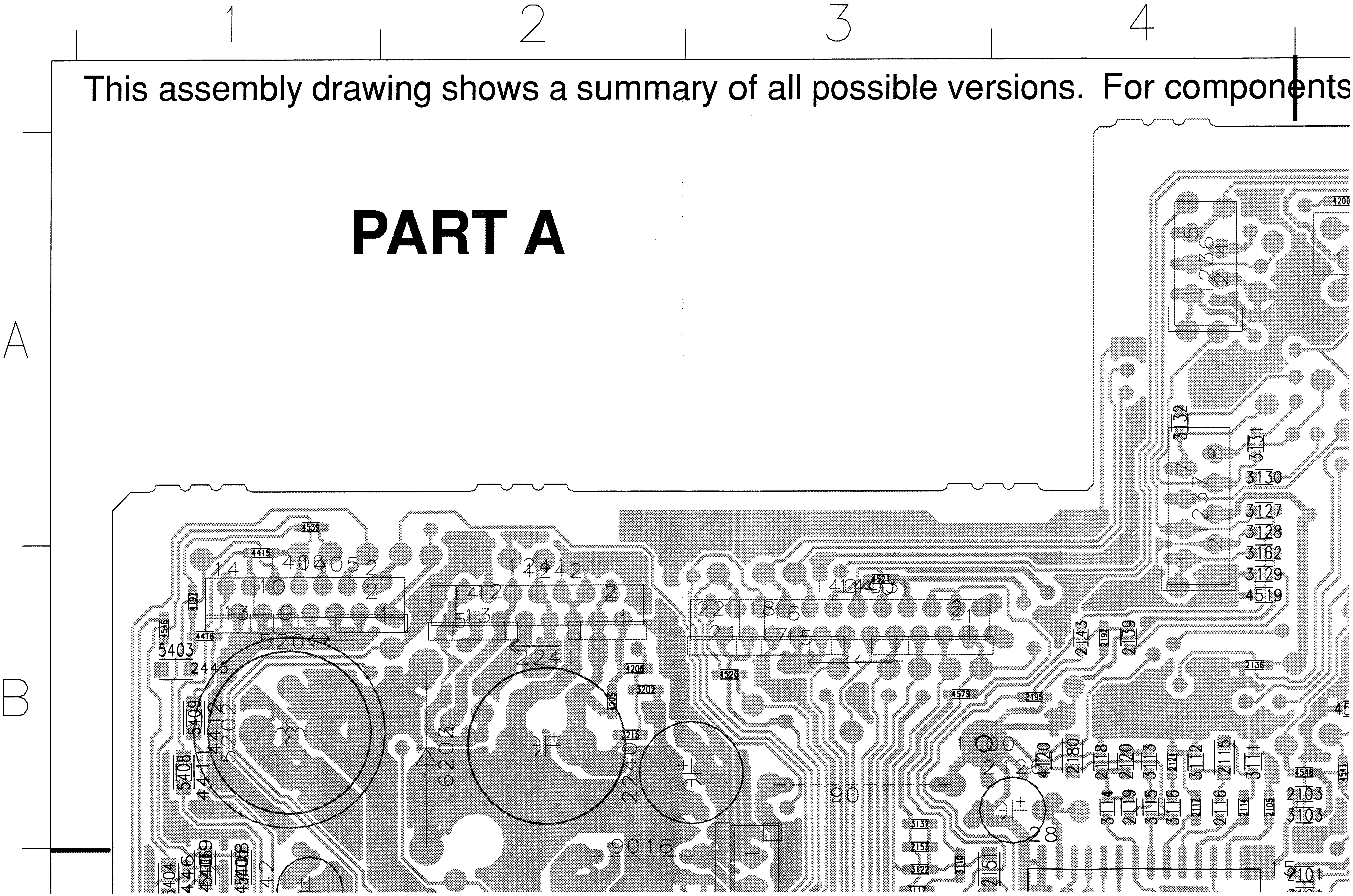


1100	B3
1145	C5
1182	D5
1183	D5
1184	D4
1186	D2
1187	D3
1200	A8
1201	C3
1230	B8
1231	C8
1232	A8
1233	A8
1234	C8
1236	A4
1237	A4
1238	A6
1239	A5
1240	A5
1241	B2
1242	B2
1243	B8
1245	B8
1401	B3
1403	B3
1404	B3
1405	B1
1406	B1
2123	C4
2124	B7
2126	B4
2166	D6
2201	A5
2202	B7
2207	C8
2208	C8
2215	B7
2217	B7
2219	C7
2224	B5
2225	B5
2226	B6
2227	A6
2228	A6
2229	A7
2230	A5
2231	D3
2232	C2
2233	B7
2240	B2
2241	B2
2242	C1
2311	C6
2313	C7
2324	A7
2336	C5
2338	C5
2420	C2
2421	C1
2430	C4
3238	C8
3290	A7
3291	A7
3472	D2
3480	D1
5201	B1
5202	B1
5402	D8
6101	C6
6202	B2
6203	B2
6204	A7
6223	A7
6224	B5
6225	A7
6226	A7
7131	B6
7204	B5
7205	A7
7206	D3
7208	C2
7210	C2
9010	A8
9011	B3
9012	D5
9013	D5
9014	C5
9016	B2
9017	C3
9020	D5
9021	D5
9108	C3
9291	A7

CHIP & COMPONENT LAYOUTS - CHIP SIDE VIEW (pcb layout ... 35006) PART A

This assembly drawing shows a summary of all possible versions. For components

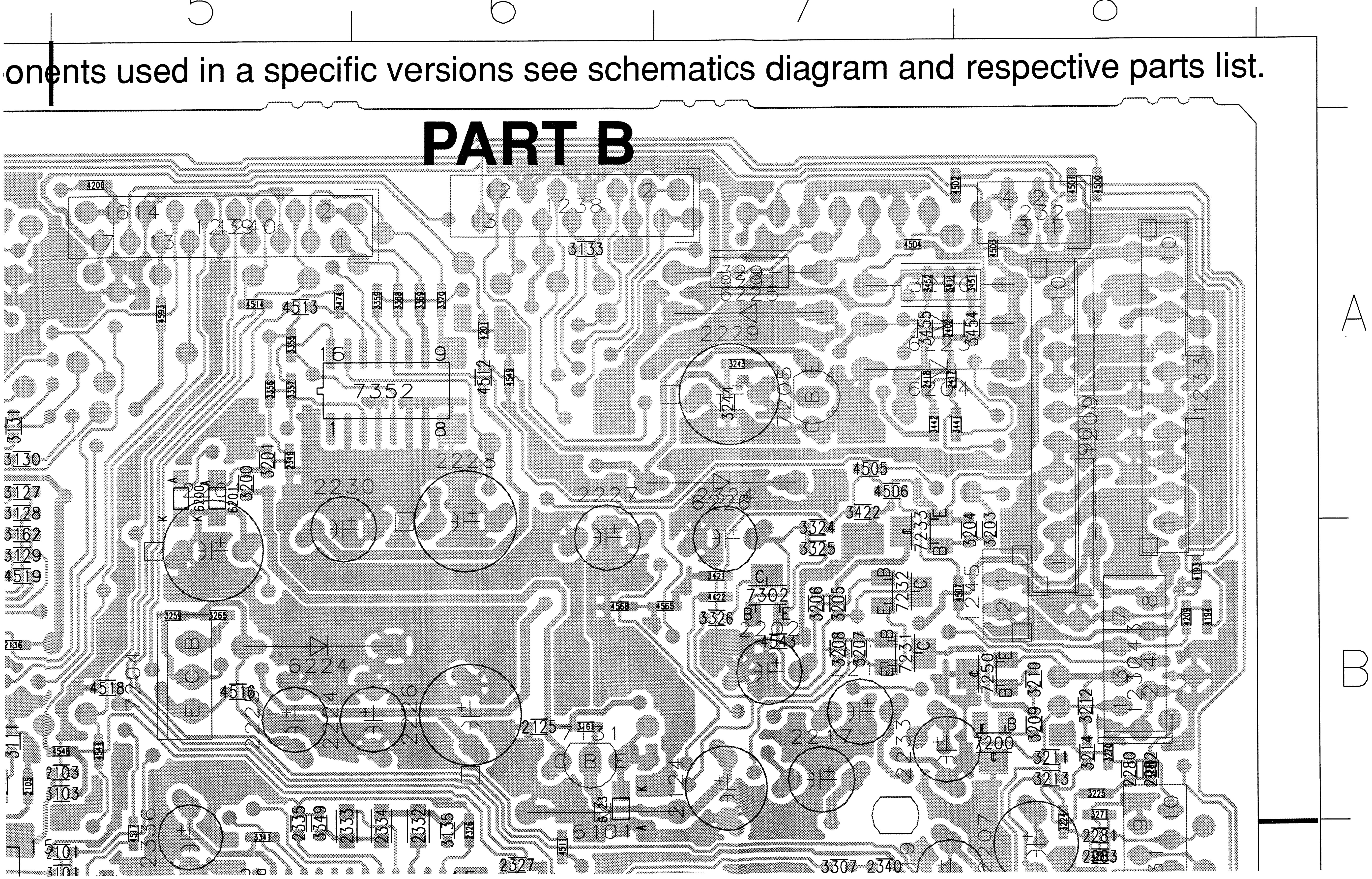
PART A


1
2
3
4
A
B
1236
1237
3132
3131
3130
3127
3128
3162
3129
4519
4200
4539
4415
1405
1244
1404
1403
4416
4197
4545
5403
2445
5201
5409
4412
4411
5408
5202
6203
2241
4206
3202
3205
3215
2240
4520
4579
2195
2143
2191
2139
2136
1100
2120
4120
2180
2118
2120
3113
2121
3112
2115
3111
4548
2103
3103
3114
2119
3115
3116
2117
2116
2114
2105
9011
9016
3137
2153
3122
3110
2151
2128
2101
5404
4416
4406
4409
4408
4410
4542

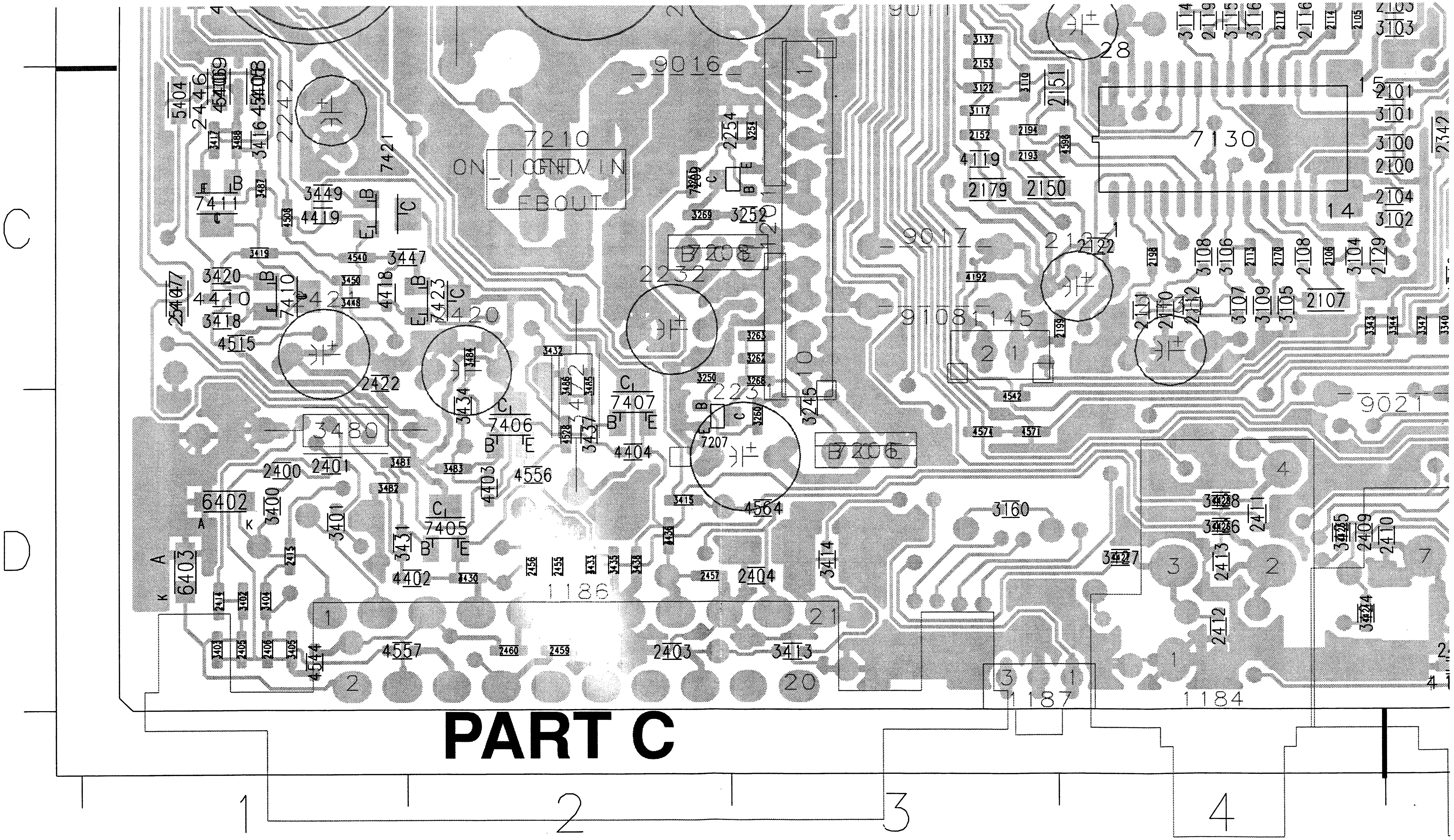
CHIP & COMPONENT LAYOUTS - CHIP SIDE VIEW (pcb layout ... 35006) PART B

onents used in a specific versions see schematics diagram and respective parts list.

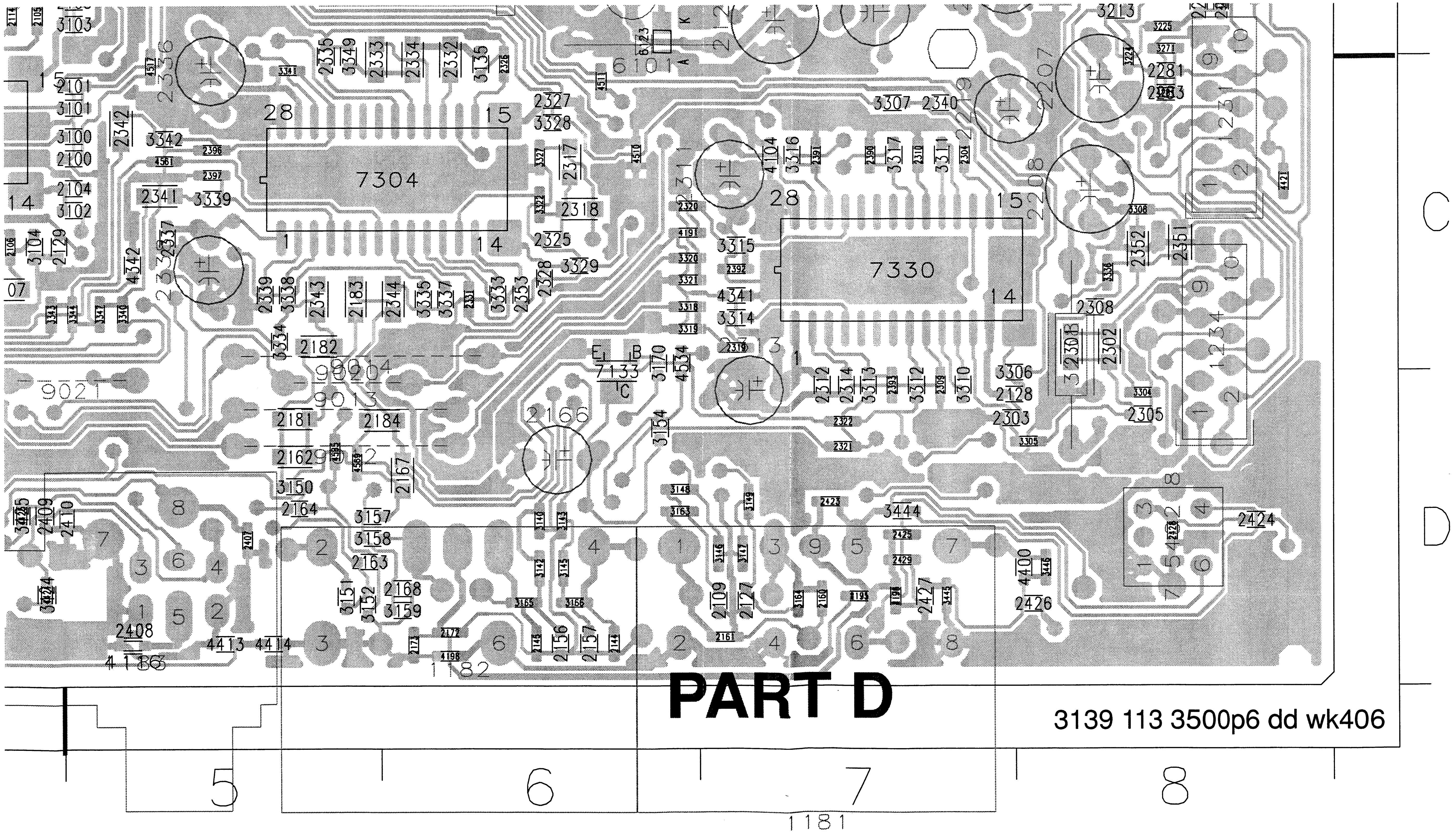
PART B


5
6
7
8
A
B
1614
17
13
121394 0
2
1
4200
12
1238
13
2
1
3133
4
2
1232
3
1
4502
4501
4500
4504
4503
3229
6225
2229
3243
3244
7205
C B E
3455
7225
3454
3453
6204
7352
16
9
1
8
4513
4514
4593
3474
3359
3368
3369
3370
4201
3353
4512
4549
3356
3357
3131
3130
3127
3128
3162
3129
4519
3201
3200
2349
6201
6200
2230
2228
2227
2224
2226
4505
4506
3422
3324
3325
7233
3204
3203
9200
1233
10
1
3421
4422
7302
3326
2202
4543
3206
3205
7232
4568
4565
2245
4507
4193
4209
4194
1234
8
7
3
4
2
1
3259
3265
E C B
6224
4518
7204
4516
2222
2224
2226
2125
3161
7131
C B E
2217
2233
3208
3207
7231
7250
3210
3209
3212
3214
3211
3213
7200
2280
2282
3225
3271
2281
2283
3224
2207
2136
3111
4548
4541
2103
3103
2105
2101
3101
4517
2336
3341
2335
3349
2333
2334
2332
3135
2124
6123
6101
4511
2327
3307
2340
2209

CHIP & COMPONENT LAYOUTS - CHIP SIDE VIEW (pcb layout ... 35006) PART C


C
D
1
2
3
4
PART C
7130
7210
9016
9017
9021
1186
1184
1187
7411
7410
7420
7421
7423
7405
7406
7407
7207
7208
7206
3480
6402
6403

CHIP & COMPONENT LAYOUTS - CHIP SIDE VIEW (pcb layout ... 35006) PART D


7304
28
15
1
14
7330
28
15
14
3103
2101
3101
3100
2100
2104
3102
2336
2342
3342
2341
3339
2335
3349
2333
2334
2332
3135
2327
3328
2317
2318
2325
3329
2328
2339
3338
2343
2183
2344
3336
3337
3333
2353
2182
2181
2184
2162
3150
2164
3157
3158
2163
3151
3152
2168
3159
2167
2166
7133
3170
4534
3154
3315
4341
3314
4104
3316
3317
3311
3307
2340
2207
2208
2209
2281
3213
2352
2351
2308
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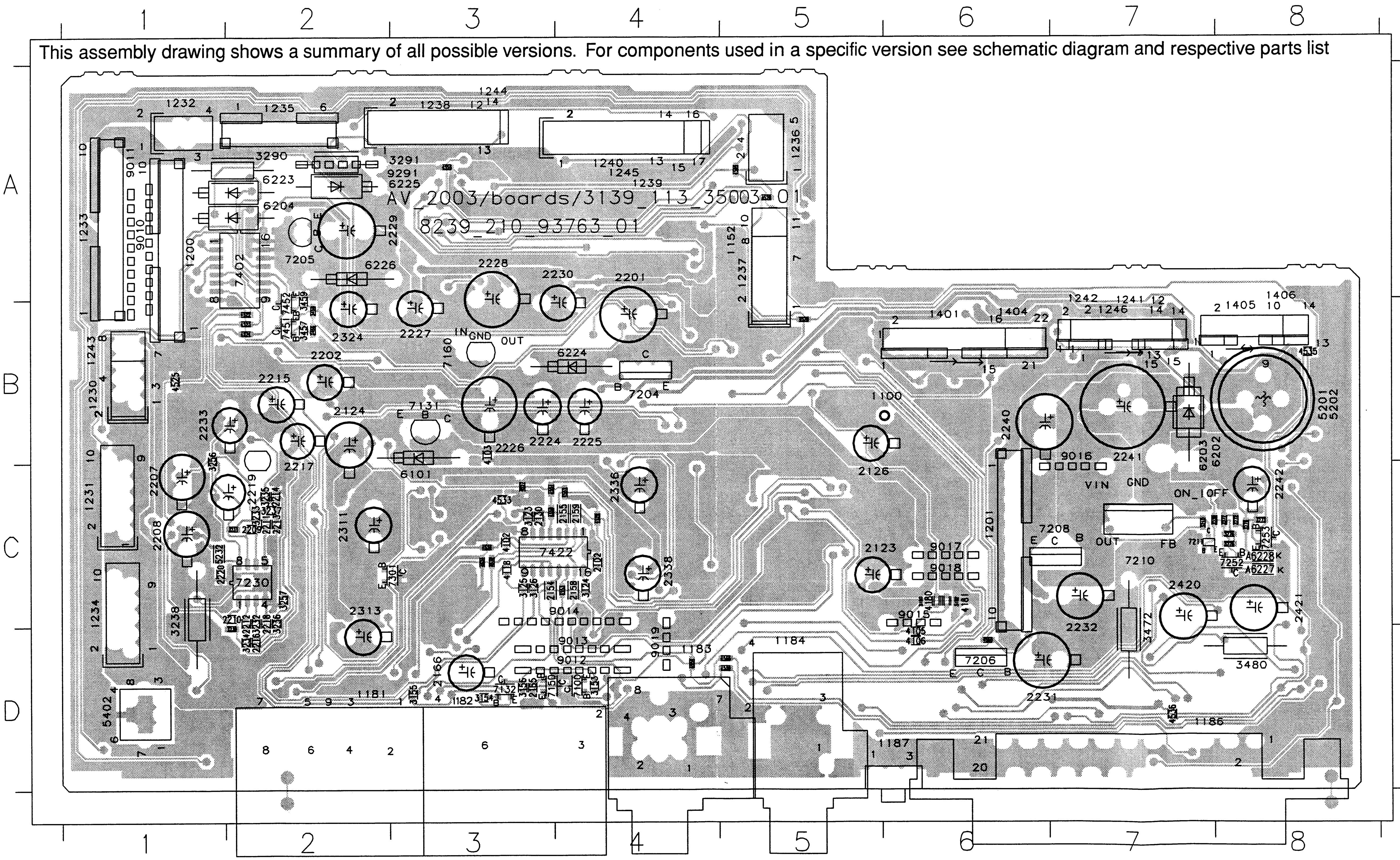
4400
3444
2427
2109
2127
2408
4413
4414
4186
9021
9013
9014
6101
1182
1181
C
D
5
6
7
8
PART D
3139 113 3500p6 dd wk406

COMPONENT & CHIP LAYOUT - COMPONENT SIDE VIEW

1100	B6
1152	A5
1181	D2
1182	D3
1183	D4
1184	D5
1186	D7
1187	D6
1200	A1
1201	C6
1230	B1
1231	C1
1232	A1
1233	A1
1234	C1
1235	A2
1236	A5
1237	A5
1238	A3
1239	A4
1240	A4
1241	B7
1242	A7
1243	B1
1244	A3
1245	A4
1246	B7
1401	B6
1404	B6
1405	B8
1406	A8
2102	C4
2123	C5
2124	B2
2126	C5
2130	C3
2154	C3
2155	C4
2158	C4
2159	C4
2165	D3
2166	D3
2201	A4
2202	B2
2207	C1
2208	C1
2209	C2
2210	C2
2211	C2
2212	C2
2213	C2
2214	C2
2215	B2
2216	D2
2217	C2
2218	C2
2219	C2
2220	C1
2224	B3
2225	B4
2226	B3
2227	B3
2228	A3
2229	A3
2230	A4
2231	D6
2232	D7
2233	B1
2240	B6
2241	B7
2242	C8
2311	C2
2313	C2
2324	B2
2336	C4
2338	C4
2420	C7
2421	C8
3123	C3
3124	C4
3125	C3
3126	C3
3153	D4
3154	D3
3155	D3
3156	D3
3180	C6
3182	C6
3230	D2
3231	C2
3232	C2
3233	C2
3234	D2
3235	C2
3236	C2
3237	C2
3238	C1
3239	C7
3240	C7
3256	B1
3257	C2
3272	C8
3273	C8
3274	C8
3275	C8
3276	C8
3277	C8
3290	A2
3291	A3
3456	B2
3457	B2
3458	B2
3459	B2
3472	D7
3480	D8
4102	C3
4103	B3
4105	D6
4106	D6
4118	C3
4180	C6
4181	C6
4522	B2
4523	B2
4524	B2
4525	B1
4526	A5
4527	C3
4528	B5
4529	C4
4530	C3
4531	C3
4532	C3
4533	C3
4535	B8
4536	D7
4550	C3
4551	C3
4552	C4
4553	C4
4554	D4
4555	A3
4558	D5
4559	D5
4560	D6
4599	A5
5201	B8
5202	B8
5232	C1
5402	D1
6101	C3
6202	B8
6203	B7
6204	A2
6223	A2
6224	B4
6225	A3
6226	A2
6227	C8
6228	C8
7100	D4
7131	B3
7132	D3
7150	D3
7160	B3
7204	B4
7205	A2
7206	D6
7208	C7
7210	C7
7211	C7
7230	C2
7252	C8
7253	C8
7301	C3
7402	A2
7422	C4
7451	B2
7452	B2
9010	A1
9011	A1
9012	D4
9013	D4
9014	C4
9015	C6
9016	B7
9017	C6
9018	C6
9019	D4
9291	A3


This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram and respective parts list

1
2
3
4
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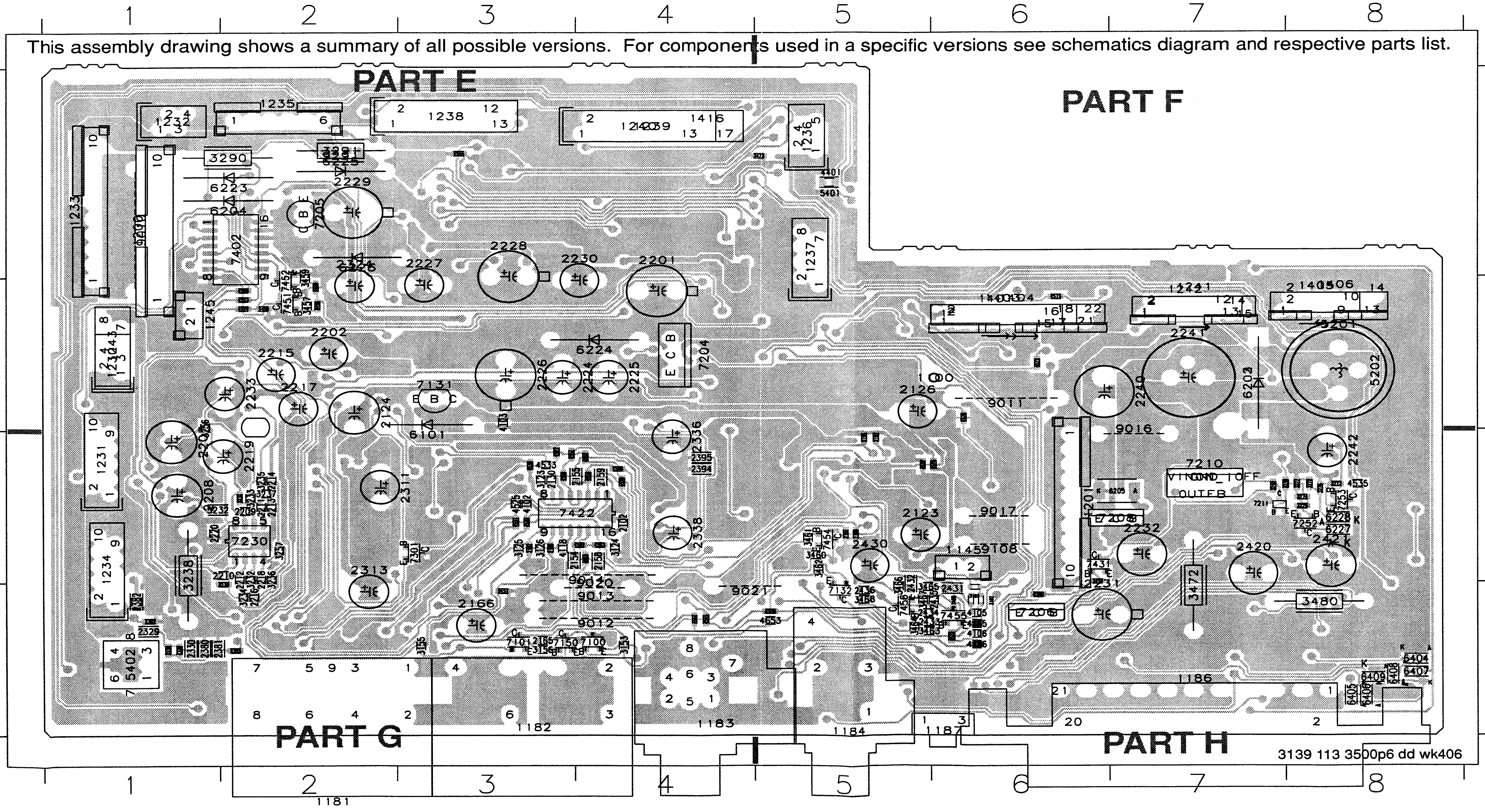
6
7
8
A
B
C
D
AV_2003/boards/3139_113_35003-01
8239_210_93763_01
1232
1235
1238
1244
1240
1245
1239
1236
1233
1200
9010
9011
3290
3291
9291
6223
6225
6204
7205
2229
7402
6226
2228
2230
2201
1152
1237
2324
2227
7160
IN
GND
OUT
7452
7451
3457
3459
1243
1230
4525
2202
6224
7204
2215
2124
7131
2226
2224
2225
2233
2217
6101
1401
1404
1242
1241
1246
1405
1406
4535
1100
2240
2241
9016
6203
6202
5201
5202
2126
VIN
ON_I OFF
2242
1231
2207
2219
2208
2311
2336
4533
7422
2338
1201
7208
OUT
FB
7210
2123
9017
9018
2420
2421
1234
7230
3238
2313
9014
9013
9012
9019
9015
2232
3472
3480
1183
1184
7206
2231
5402
1181
1182
2166
7132
1186
1187

OMPONENT & CHIP LAYOUT - COMPONENT SIDE VIEW (pcb layout ... 35006)

1100	B6	1238	A3	2154	C3	2208	C1	2228	A3	2381	D1	3125	C3	3239	C7	3457	B2	4105	D6	4533	C3	4570	B6	6225	A2	7206	D6	9011	B6
1145	C6	1239	A4	2155	C4	2209	C2	2229	A2	2382	D1	3126	C3	3240	C7	3458	B2	4106	D6	4535	C8	4572	B6	6226	A2	7208	C7	9012	D4
1182	D3	1240	A4	2158	C4	2210	C2	2230	A4	2394	C4	3153	D4	3256	B1	3459	B2	4118	C3	4537	C5	4573	B6	6227	C8	7210	C7	9013	D4
1183	D4	1241	B7	2159	C4	2211	C2	2231	D6	2395	C4	3155	D3	3257	C2	3460	C5	4125	D6	4538	D5	4575	C6	6228	C8	7211	C7	9014	C4
1184	D5	1242	B7	2165	D3	2212	C2	2232	C7	2420	C7	3156	D3	3272	C8	3461	C5	4126	D6	4545	D4	4653	D5	6404	D8	7230	C2	9016	B7
1186	D7	1243	B1	2166	D3	2213	C2	2233	B2	2421	C8	3180	D6	3273	C8	3462	C5	4330	D1	4550	C3	5201	B8	6405	D8	7252	C8	9017	C6
1187	D6	1245	B1	2185	D6	2214	C2	2240	B7	2430	C5	3182	D6	3274	C8	3463	D5	4382	D1	4551	C3	5202	B8	6406	D8	7253	C8	9020	D4
1200	A1	1401	B6	2186	D6	2215	B2	2241	B7	2431	D6	3183	D6	3275	C8	3464	D5	4401	A5	4552	C4	5232	C1	6407	D8	7301	C3	9021	D4
1201	C6	1403	B6	2187	C3	2216	D2	2242	C8	2432	D5	3230	D2	3276	C8	3465	D5	4522	D6	4553	C4	5401	A5	6408	D8	7402	A2	9108	C6
1230	B1	1404	B6	2188	C3	2217	B2	2311	C3	2433	D5	3231	C2	3277	C8	3466	D5	4523	B2	4554	D4	5402	D1	6409	D8	7422	C4	9291	A2
1231	C1	1405	B8	2190	C5	2218	C2	2313	C2	2434	D5	3232	C2	3290	A2	3467	D5	4524	B2	4555	A3	6101	C3	7100	D4	7431	C6		
1232	A1	1406	B8	2191	C5	2219	C2	2324	A2	2435	D6	3233	C2	3291	A2	3468	D5	4525	C3	4558	C4	6202	B7	7101	D3	7451	B2		
1233	A1	2102	C4	2196	C5	2220	C1	2329	D1	2436	D5	3234	D2	3302	D1	3472	D7	4527	C3	4559	C4	6203	B7	7131	B3	7452	B2		
1234	C1	2123	C5	2197	C5	2224	B4	2330	D1	2450	B2	3235	C2	3303	D2	3473	A5	4529	C4	4560	D6	6204	A2	7132	D5	7454	C5		
1235	A2	2124	B2	2201	A4	2225	B4	2336	C4	2451	D3	3236	C2	3330	D1	3480	D8	4530	C3	4562	C4	6205	C7	7150	D3	7455	D6		
1236	A5	2126	B5	2202	B2	2226	B3	2338	C4	3123	C3	3237	C2	3412	C6	4102	C3	4531	C3	4563	C4	6223	A2	7204	B4	7456	D5		
1237	A5	2130	C3	2207	C1	2227	A3	2380	D1	3124	C4	3238	C1	3456	B2	4103	B3	4532	C3	4566	B2	6224	B4	7205	A2	9010	A1		

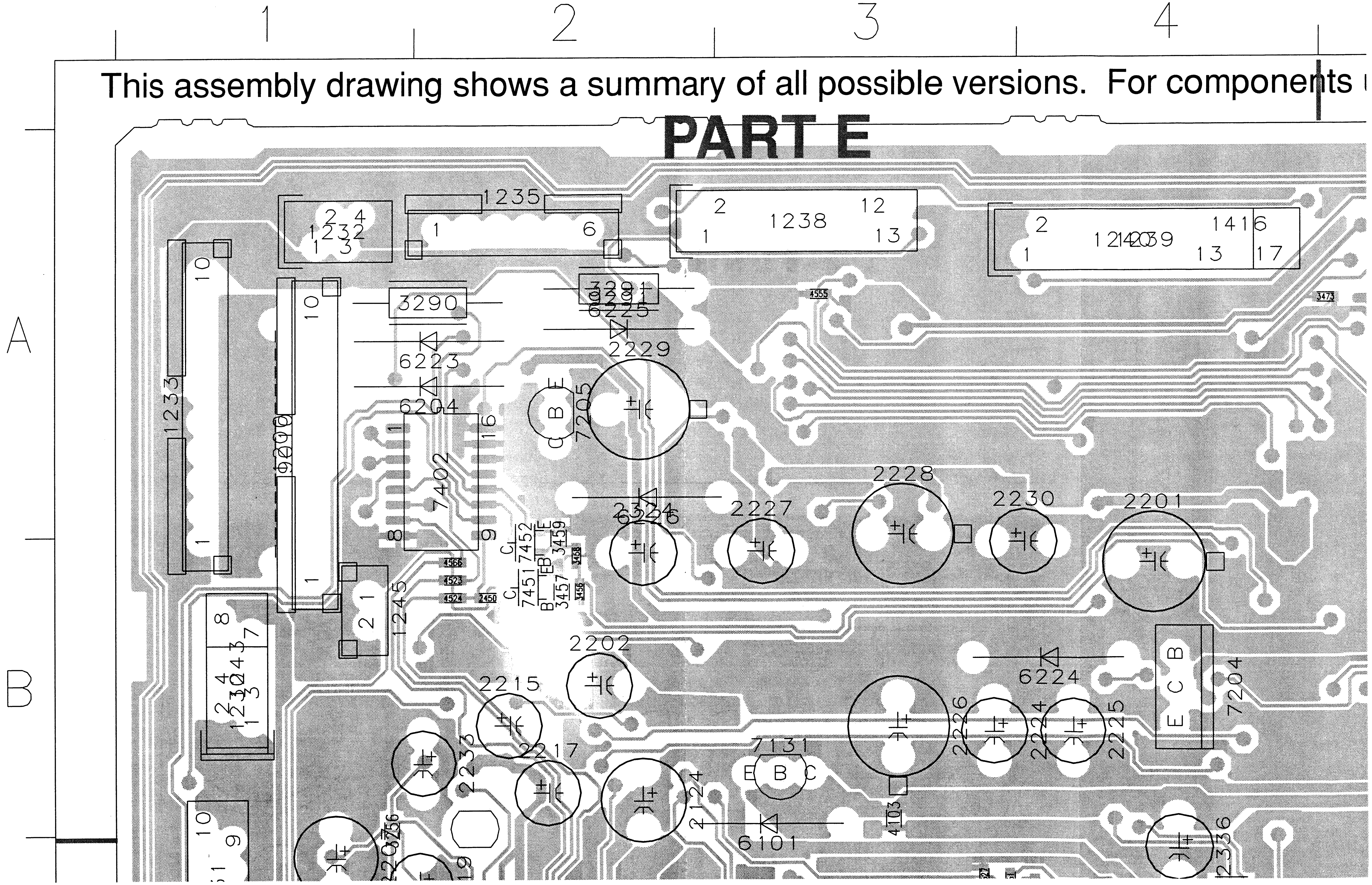


This assembly drawing shows a summary of all possible versions. For components used in a specific versions see schematics diagram and respective parts list.

1
2
3
4
5
6
7
8
A
B
C
D
PART E
PART F
PART G
PART H
1232
1235
1238
1239
1236
1237
1233
3290
6223
6204
2229
7205
7402
2224
2227
2228
2230
2201
1245
1243
2202
2215
2217
2233
6224
7204
2226
2225
2124
7131
6101
1231
2219
2208
7230
3238
1234
2311
7422
2336
2338
2313
2166
9012
9013
9020
9021
5402
1182
1183
1184
1187
1186
1181
1404
1241
1406
2241
5201
5202
6203
2126
9011
2240
9016
7210
2242
2123
9017
2430
9108
2232
2420
3472
3480
7208
7206
2231
6228
6227
3139 113 3500p6 dd wk406

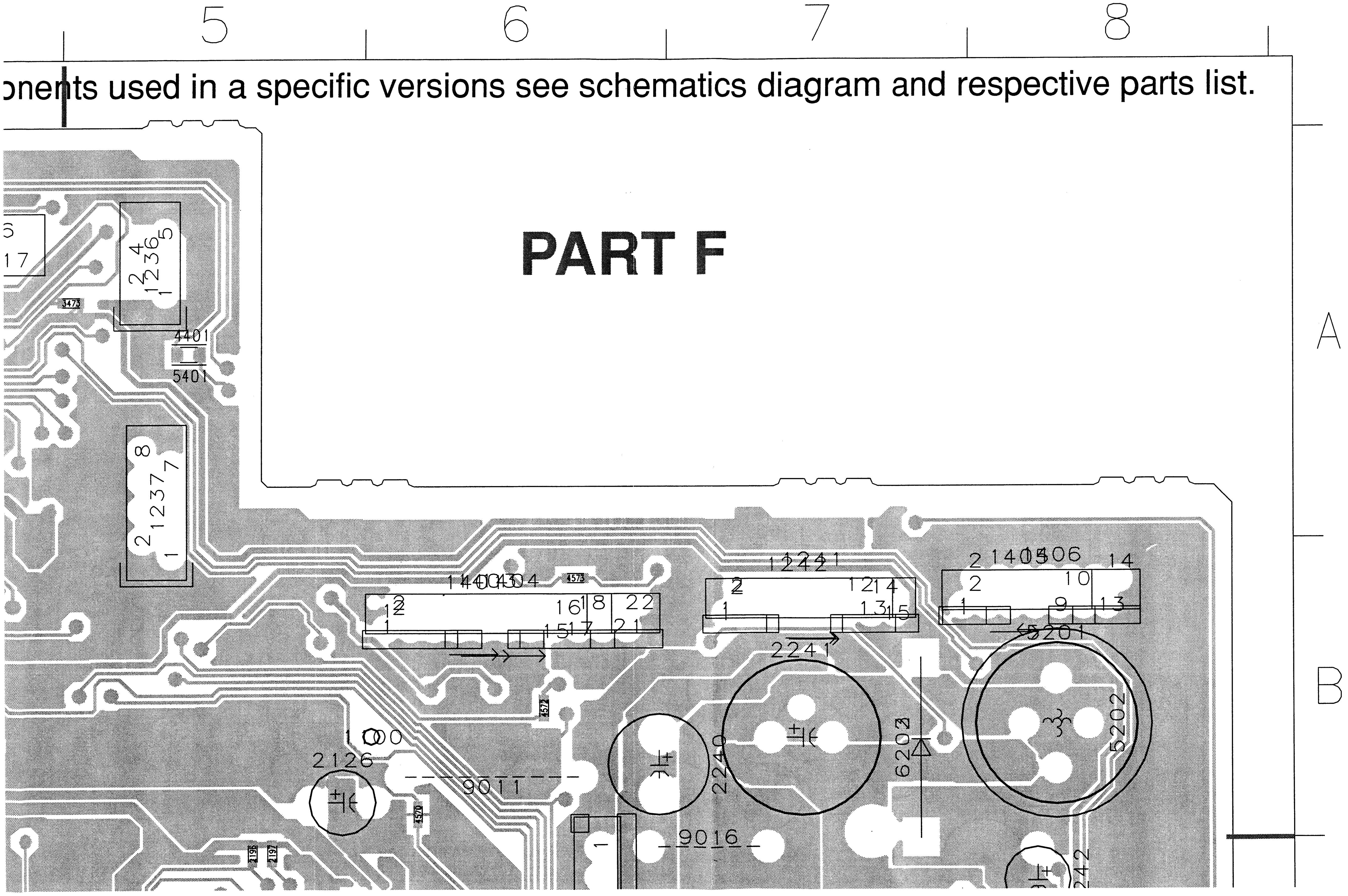
COMPONENT & CHIP LAYOUT - COMPONENT SIDE VIEW (pcb layout ... 35006) PART E

This assembly drawing shows a summary of all possible versions. For componen

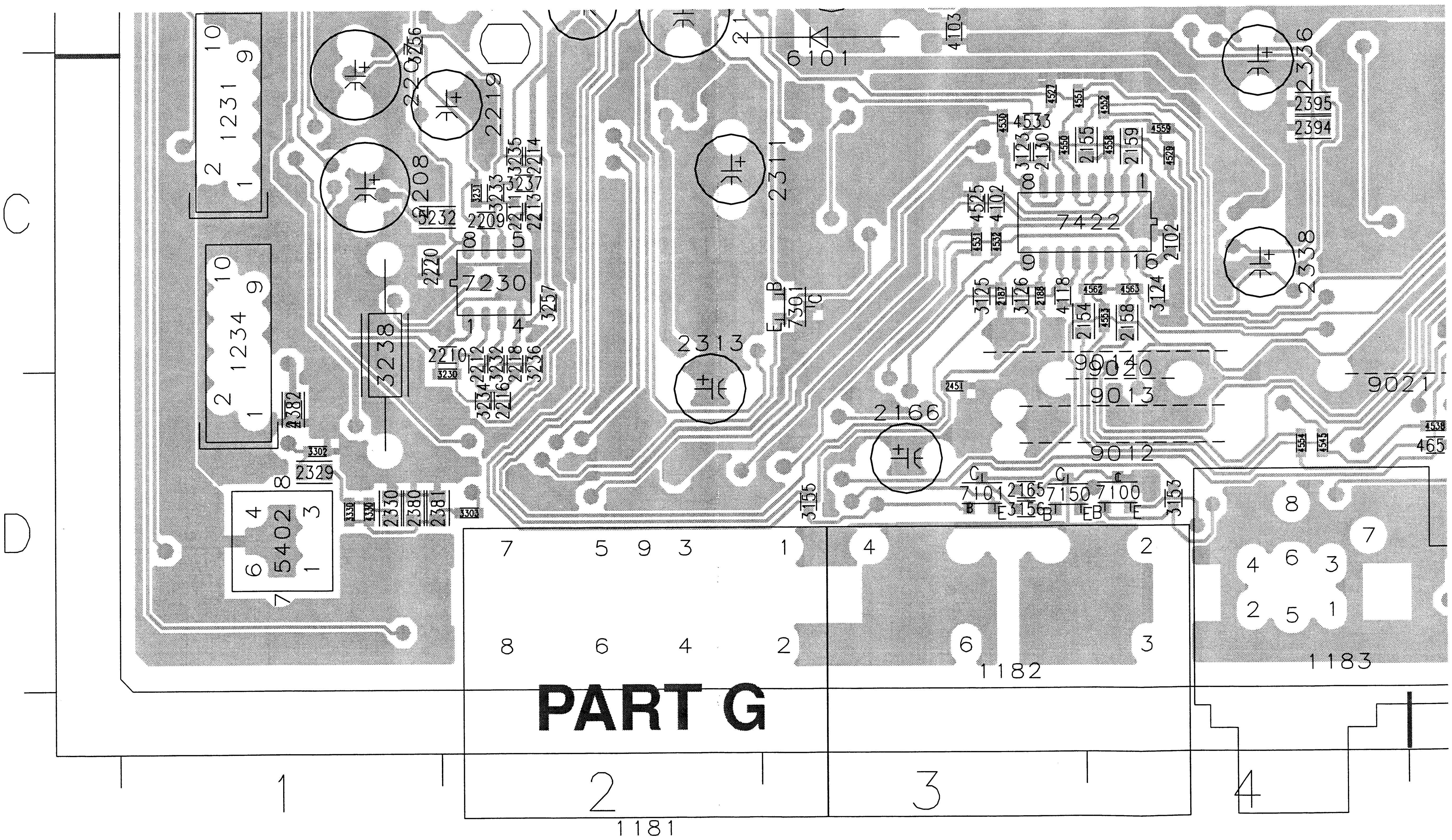

1
2
3
4
A
B
PART E
1235
1232
1238
1239
1240
1233
3290
3291
6225
6223
6204
2229
7205
7402
2228
2227
2230
2201
2324
6226
1245
7451
7452
3457
3459
4566
4523
4524
2450
4555
3473
2202
2215
2217
2233
2124
6101
7131
2226
2224
2225
6224
7204
4103
2336
1230

COMPONENT & CHIP LAYOUT - COMPONENT SIDE VIEW (pcb layout ... 35006) PART F

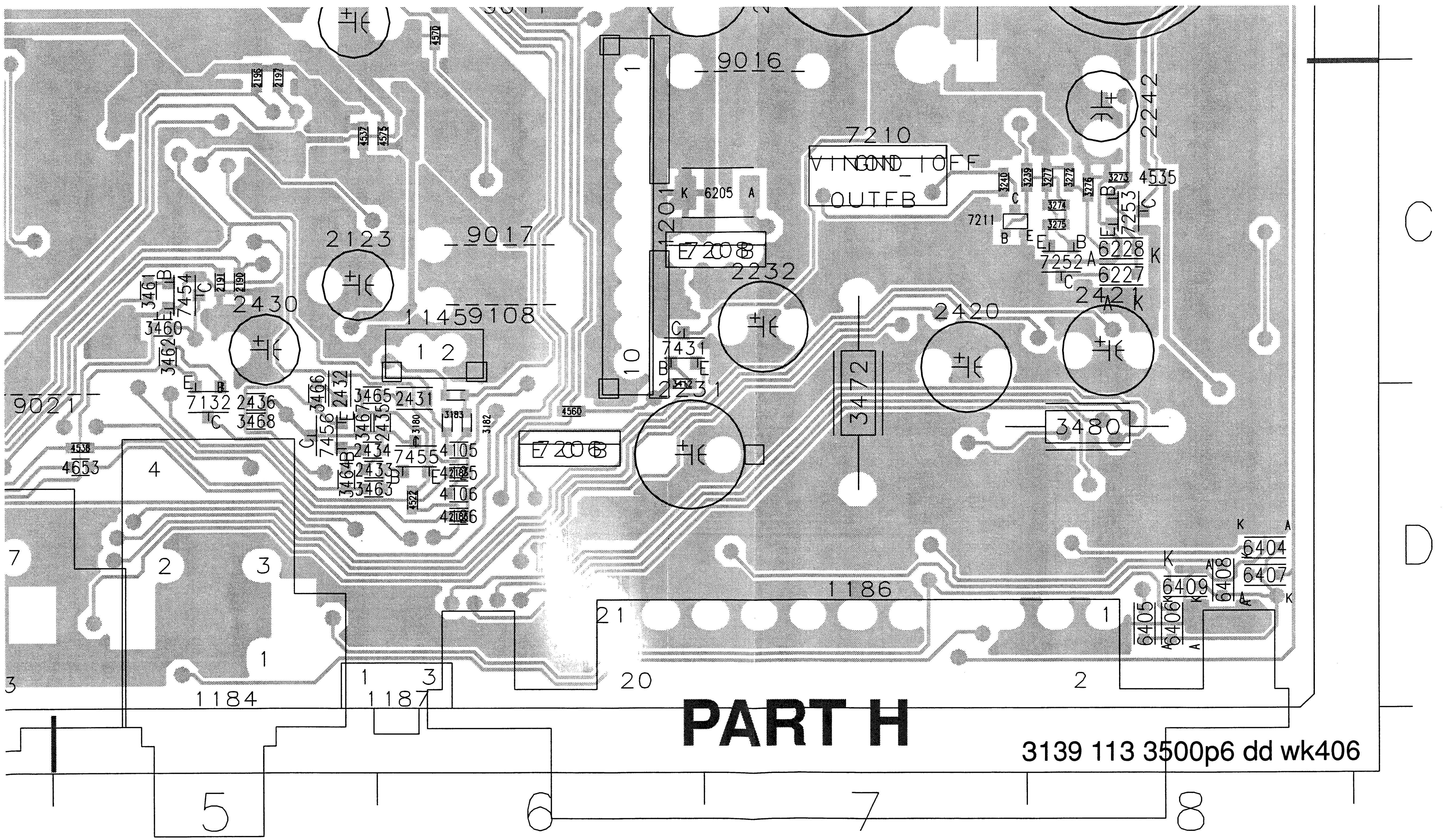
onents used in a specific versions see schematics diagram and respective parts list.


5
6
7
8
A
B
PART F
1236
3473
4401
5401
1237
1400
1404
4573
1241
1242
1405
1406
5201
2241
2240
6202
5202
1100
2126
9011
4572
4570
9016
2196
2197
2242

COMPONENT & CHIP LAYOUT - COMPONENT SIDE VIEW (pcb layout ... 35006) PART G


C
D
1
2
3
4
PART G
1231
1234
5402
2208
2219
2220
3256
3232
3233
3235
3237
2209
2211
2213
2214
7230
2220
3257
3238
2210
3230
2212
3232
2218
3236
3234
2216
3382
3302
2329
3303
2330
2380
2381
2311
2313
6101
4103
7301
2166
3155
7101
2165
7150
7100
3156
3153
4533
3123
2130
2155
2159
4525
4102
7422
2102
3125
3126
4118
3124
2154
2158
9014
9020
9013
9012
9021
2336
2395
2394
2338
1181
1182
1183

COMPONENT & CHIP LAYOUT - COMPONENT SIDE VIEW (pcb layout ... 35006) PART H


9016
7210
VINCOND_IOFF
OUTFB
2242
4535
3240
3239
3277
3272
3276
3273
3274
3275
7211
7253
7252
6228
6227
2421
2420
2232
1201
6205
E7208
9017
2123
2430
3461
7454
3460
3462
9021
7132
2436
3468
3466
2432
3465
2431
3467
2435
7456
2434
2433
7455
3464
3463
4105
4106
4538
4653
4560
E7206
7431
2231
3452
3472
3480
1186
1184
1187
11459108
4570
2196
2197
4567
4573
2191
2190
3180
3183
3182
4522
6404
6407
6408
6409
6405
6406
C
D
5
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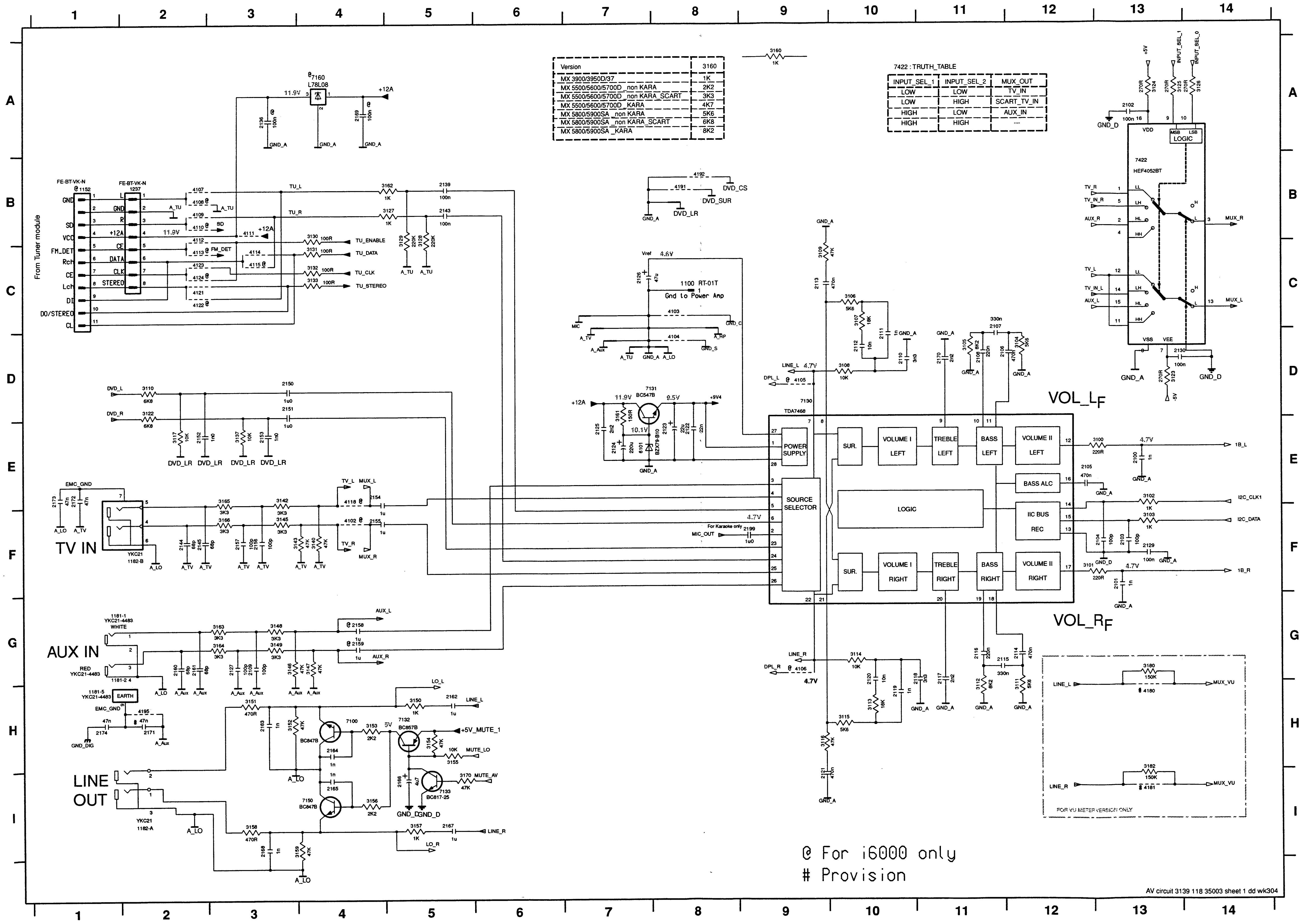
7
8

PART H

3139 113 3500p6 dd wk406

INPUT, SOURCE SELECT & VOLUME CONTROL L/R CIRCUIT


From Tuner module
FE-BT-VK-N
1152
1237
GND
SD
VCC
FM_DET
Rch
CE
Lch
DI
DO/STEREO
CL
+12A
CE
DATA
CLK
STEREO
TU_L
TU_R
TU_ENABLE
TU_DATA
TU_CLK
TU_STEREO
7160
L78L08
11.9V
+12A
GND_A
DVD_L
DVD_R
DVD_LR
EMC_GND
TV IN
YKC21
1182-B
A_LO
A_TV
TV_L
MUX_L
TV_R
MUX_R
AUX IN
WHITE
RED
YKC21-4483
EARTH
EMC_GND
GND_DIG
A_Aux
AUX_L
AUX_R
LINE OUT
YKC21
1182-A
LO_L
LO_R
LINE_L
LINE_R
+5V_MUTE_1
MUTE_LO
MUTE_AV
BC847B
BC857B
BC817-25
GND_D
DVD_CS
DVD_SUR
DVD_LR
Vref
4.6V
1100 RT-01T
Gnd to Power Amp
MIC
A_TV
A_Aux
A_TU
A_RP
GND_S
7131
BC547B
+9V4
BZX79-B10
MIC_OUT
For Karaoke only
7130
TDA7468
POWER SUPPLY
SOURCE SELECTOR
SUR.
VOLUME I LEFT
TREBLE LEFT
BASS LEFT
VOLUME II LEFT
BASS ALC
LOGIC
IIC BUS REC
VOLUME I RIGHT
TREBLE RIGHT
BASS RIGHT
VOLUME II RIGHT
VOL_LF
VOL_RF
1B_L
1B_R
I2C_CLK1
I2C_DATA
LINE_L
DPL_L
LINE_R
DPL_R
4.7V
7422
HEF4052BT
VDD
MSB LSB
LOGIC
TV_R
TV_IN_R
AUX_R
TV_L
TV_IN_L
AUX_L
MUX_R
MUX_L
VSS
VEE
INPUT_SEL_1
INPUT_SEL_0
+5V
-5V
GND_D
GND_A
MUX_VU
FOR VU METER VERSION ONLY

Version	3160
MX 3900/3950D/37	1K
MX 5500/5600/5700D _non KARA	2K2
MX 5500/5600/5700D _non KARA_SCART	3K3
MX 5500/5600/5700D _KARA	4K7
MX 5800/5900SA _non KARA	5K6
MX 5800/5900SA _non KARA_SCART	6K8
MX 5800/5900SA _KARA	8K2

7422 : TRUTH_TABLE

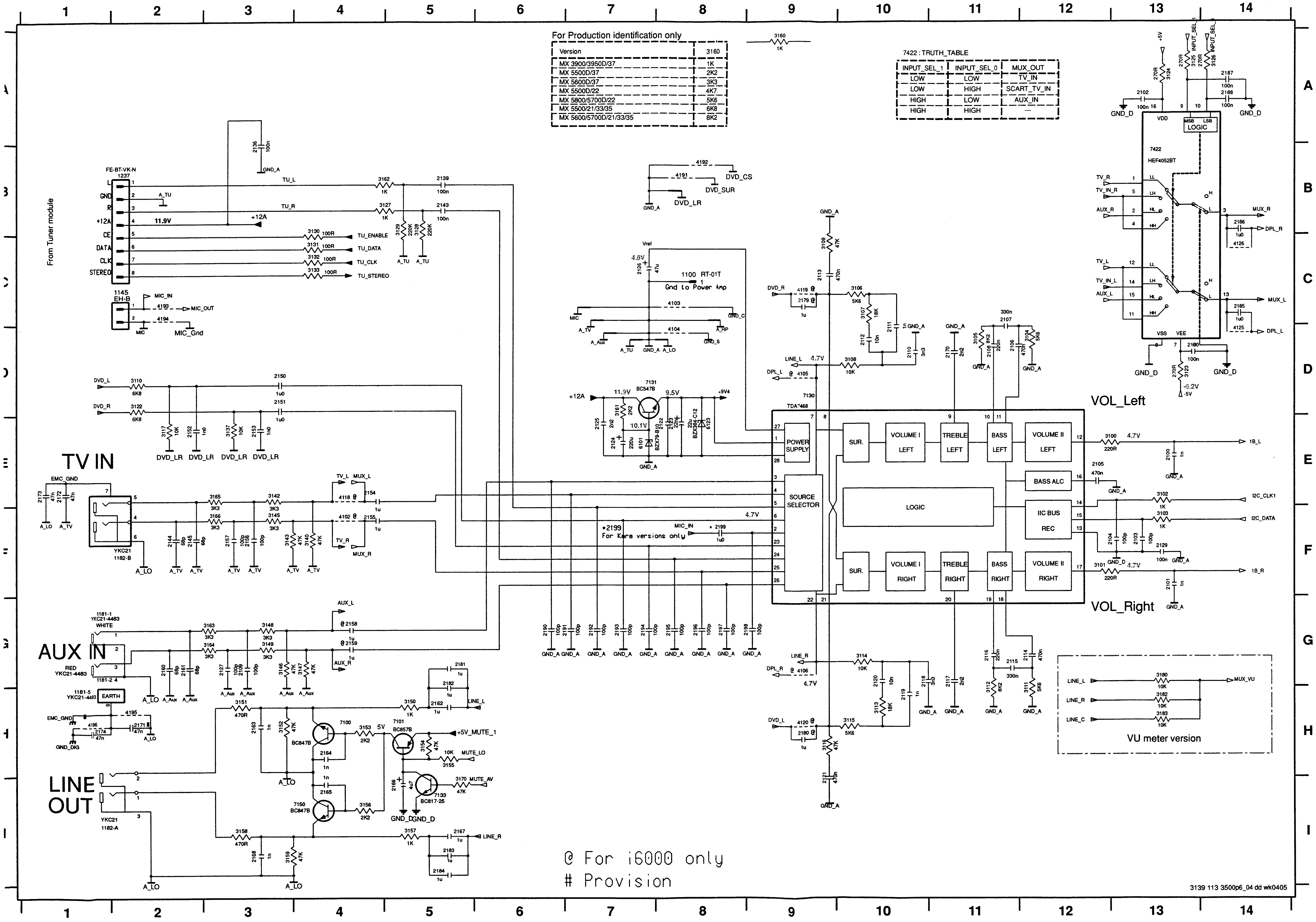
INPUT_SEL_1	INPUT_SEL_2	MUX_OUT
LOW	LOW	TV_IN
LOW	HIGH	SCART_TV_IN
HIGH	LOW	AUX_IN
HIGH	HIGH	---

@ For i6000 only
# Provision

AV circuit 3139 118 35003 sheet 1 dd wk304

1100	C8
1152	B1
1181-1	G1
1181-2	G1
1181-5	H1
1182-A	I2
1182-B	F2
1237	B2
2100	E13
2101	F13
2102	A13
2103	F13
2104	F13
2105	E12
2106	D11
2107	C11
2108	D11
2109	G3
2110	D10
2111	D10
2112	D10
2113	C9
2114	G12
2115	G11
2116	G11
2117	G11
2118	G11
2119	H10
2120	G10
2121	I9
2122	E8
2123	E8
2124	E7
2125	E7
2126	C7
2127	G3
2129	F13
2130	D13
2136	A3
2139	B5
2143	B5
2144	F2
2145	F2
2150	D3
2151	D3
2152	E2
2153	E3
2154	E4
2155	F4
2156	F3
2157	F3
2158	G4
2159	G4
2160	G2
2161	G2
2162	H5
2163	H3
2164	H4
2165	I4
2166	I5
2167	I5
2168	I3
2169	A4
2170	D11
2171	H2
2172	E1
2173	E1
2174	H1
2199	F9
3100	E13
3101	F12
3102	E13
3103	F13
3104	D12
3105	D11
3106	C10
3107	C10
3108	D10
3109	C9
3110	D2
3111	H12
3112	H11
3113	H10
3114	G10
3115	H10
3116	H9
3117	E2
3122	D2
3123	D13
3124	A13
3125	A13
3126	A14
3127	B5
3128	B5
3129	B5
3130	B4
3131	C4
3132	C4
3133	C4
3137	E3
3140	F4
3142	E3
3143	F3
3145	F3
3146	G3
3147	G4
3148	G3
3149	G3
3150	H5
3151	H3
3152	H3
3153	H4
3154	H5
3155	H5
3156	I4
3157	I5
3158	I3
3159	I3
3160	A9
3161	D7
3162	B5
3163	G3
3164	G3
3165	E3
3166	F3
3170	I5
3180	G13
3182	I13
4102	F4
4103	C8
4104	D8
4105	D9
4106	G9
4107	B2
4108	B2
4109	B2
4110	B2
4111	B3
4112	B2
4113	C2
4114	C3
4115	C3
4118	E4
4121	C2
4122	C2
4123	C2
4124	C2
4180	H13
4181	I13
4191	B8
4192	B8
4195	H2
6101	E7
7100	H4
7130	D9
7131	D7
7132	H5
7133	I5
7150	I4
7160	A4
7422	B13

NPUT, SOURCE SELECT & VOLUME CONTROL L/R CIRCUIT (For pcb layout ... 35006)


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
From Tuner module
FE-BT-VK-N
1237
L GND R +12A CE DATA CLK STEREO
TU_L
TU_R
11.9V
+12A
TU_ENABLE
TU_DATA
TU_CLK
TU_STEREO
1145 EH-B
MIC_IN
MIC_OUT
MIC_Gnd
DVD_CS
DVD_SUR
DVD_LR
1100 RT-01T
Gnd to Power Amp
DVD_L
DVD_R
TV IN
EMC_GND
YKC21 1182-B
AUX IN
1181-1 YKC21-4483 WHITE
RED YKC21-4483
1181-2
1181-5 YKC21-4483
EARTH
EMC_GND
GND_DIG
LINE OUT
YKC21 1182-A
7131 BC547B
+9V4
7100 BC847B
7150 BC847B
7101 BC857B
7133 BC817-25
+5V_MUTE_1
MUTE_LO
MUTE_AV
LINE_L
LINE_R
*2199
For Kara versions only
MIC_IN
7130 TDA7468
POWER SUPPLY
SOURCE SELECTOR
SUR.
VOLUME I LEFT
TREBLE LEFT
BASS LEFT
VOLUME II LEFT
BASS ALC
LOGIC
IIC BUS REC
VOLUME I RIGHT
TREBLE RIGHT
BASS RIGHT
VOLUME II RIGHT
VOL_Left
VOL_Right
1B_L
1B_R
I2C_CLK1
I2C_DATA
DVD_R
DVD_L
DPL_L
DPL_R
7422 HEF4052BT
VDD VSS VEE
MSB LSB LOGIC
TV_R TV_IN_R AUX_R
TV_L TV_IN_L AUX_L
MUX_R
MUX_L
INPUT_SEL_1
INPUT_SEL_0
GND_D
GND_A
A_TV A_Aux A_LO A_TU
LINE_L LINE_R LINE_C
MUX_VU
VU meter version
@ For i6000 only
# Provision
3139 113 3500p6_04 dd wk0405

For Production identification only

Version	3160
MX 3900/3950D/37	1K
MX 5500D/37	2K2
MX 5600D/37	3K3
MX 5500D/22	4K7
MX 5800/5700D/22	5K6
MX 5500/21/33/35	6K8
MX 5600/5700D/21/33/35	8K2

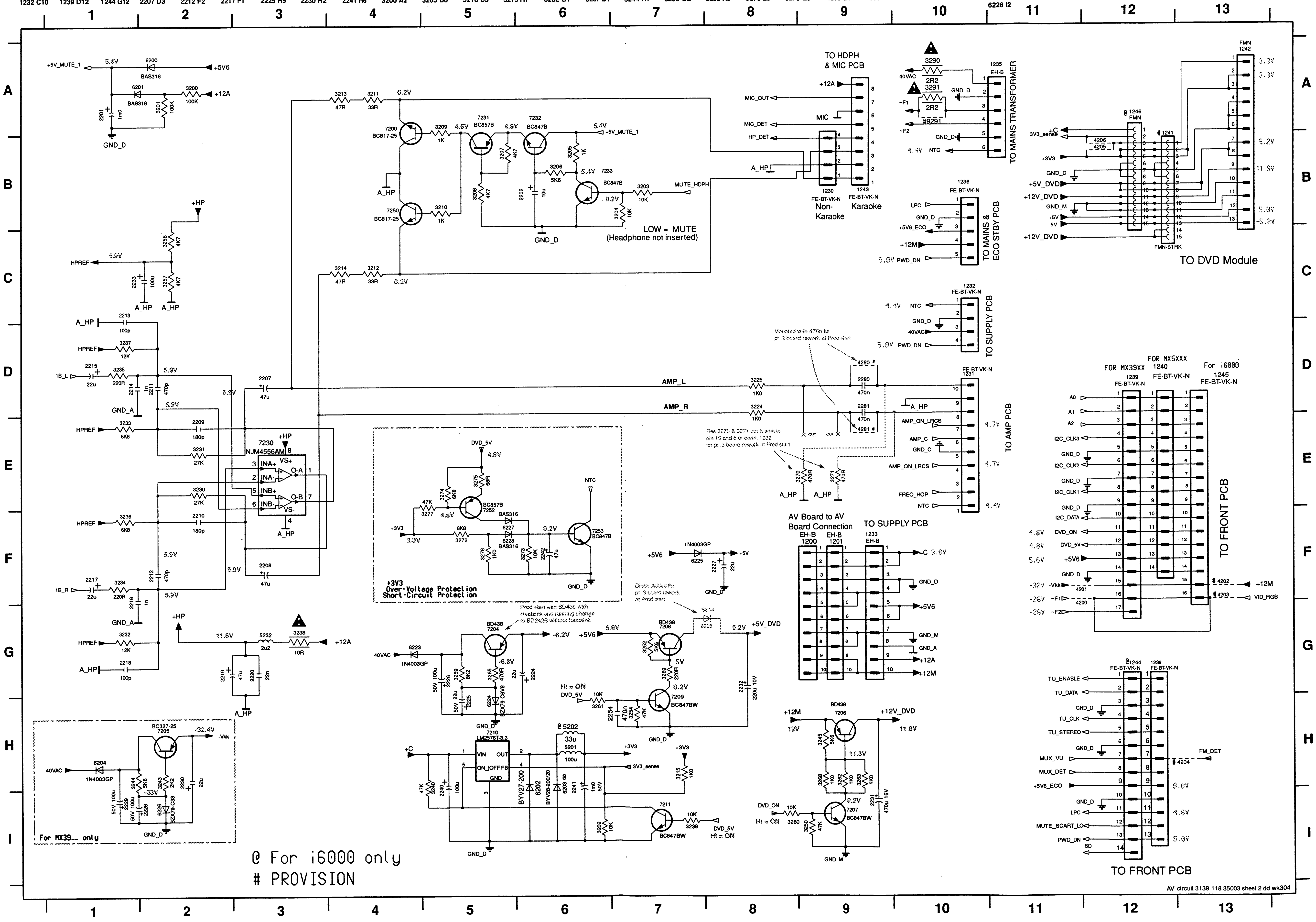
7422 : TRUTH_TABLE

INPUT_SEL_1	INPUT_SEL_0	MUX_OUT
LOW	LOW	TV_IN
LOW	HIGH	SCART_TV_IN
HIGH	LOW	AUX_IN
HIGH	HIGH	---

1100	C8
1145	C2
1181-1	G1
1181-2	G1
1181-5	H1
1182-A	I1
1182-B	F2
1237	B2
2100	E13
2101	F13
2102	A13
2103	F13
2104	F13
2105	E12
2106	D11
2107	C11
2108	D11
2109	G3
2110	D10
2111	D10
2112	D10
2113	C9
2114	G12
2115	G11
2116	G11
2117	G11
2118	G10
2119	H10
2120	G10
2121	I9
2122	E8
2123	E8
2124	E7
2125	E7
2126	C7
2127	G3
2129	F13
2130	D13
2136	B3
2139	B5
2143	B5
2144	F2
2145	F2
2150	D3
2151	D3
2152	E2
2153	E3
2154	E4
2155	F4
2156	F3
2157	F3
2158	G4
2159	G4
2160	G2
2161	G2
2162	H5
2163	H3
2164	H4
2165	I4
2166	I5
2167	I5
2168	I3
2170	D11
2171	H2
2172	E1
2173	E1
2174	H1
2179	C9
2180	H9
2181	G5
2182	G5
2183	I5
2184	I5
2185	C14
2186	B14
2187	A14
2188	A14
2190	G6
2191	G7
2192	G7
2193	G7
2194	G7
2195	G8
2196	G8
2197	G8
2198	G9
2199	F8
3100	E13
3101	F12
3102	E13
3103	F13
3104	D12
3105	D11
3106	C10
3107	C10
3108	D10
3109	C9
3110	D2
3111	H12
3112	H11
3113	H10
3114	G10
3115	H10
3116	H9
3117	E2
3122	D2
3123	D13
3124	A13
3125	A13
3126	A14
3127	B5
3128	B5
3129	B5
3130	B4
3131	C4
3132	C4
3133	C4
3137	E3
3140	F4
3142	E3
3143	F3
3145	F3
3146	G3
3147	G4
3148	G3
3149	G3
3150	H5
3151	H3
3152	H3
3153	H4
3154	H5
3155	H5
3156	I4
3157	I5
3158	I3
3159	I3
3160	A9
3161	D7
3162	B4
3163	G3
3164	G3
3165	E3
3166	F3
3170	I5
3180	G13
3182	H13
3183	H13
4102	F4
4103	C8
4104	D8
4105	D9
4106	G9
4118	E4
4119	C9
4120	H9
4125	D14
4126	C14
4191	B8
4192	B8
4193	C2
4194	C2
4195	H2
4196	H1
6101	E7
6123	E8
7100	H4
7101	H5
7131	D7
7133	I5
7150	I4
7422	B13

PRE-AMPLIFIER, SUPPLY & INTERCONNECTION CIRCUIT

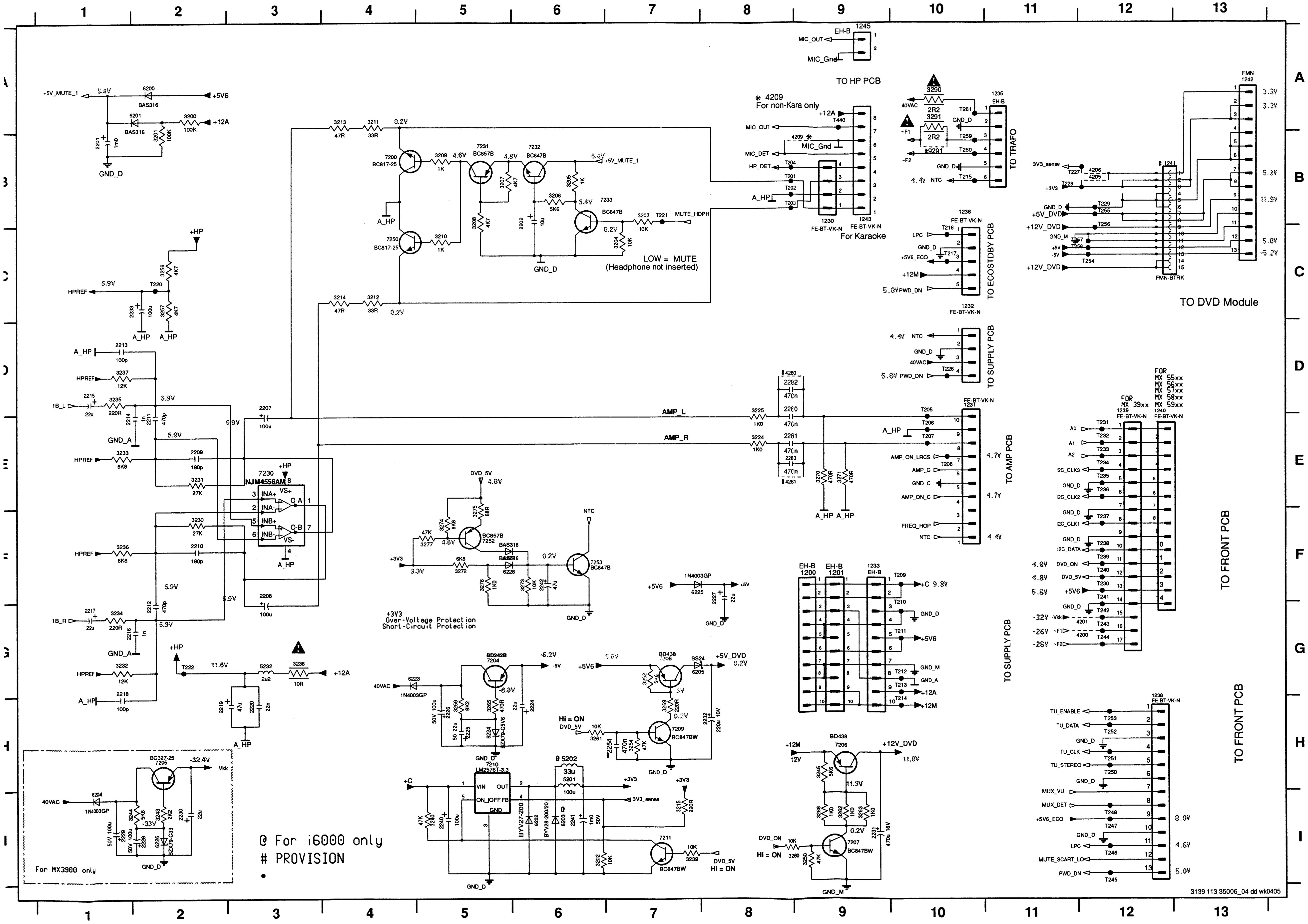
1200 F9	1233 F9	1240 D12	1245 D13	2208 F3	2213 C1	2218 G1	2226 G5	2231 I9	2242 F6	3201 A2	3206 B6	3211 A4	3224 D8	3233 E1	3238 G3	3245 H9	3257 C2	3263 H9	3271 E9	3276 F5	4201 F11	4206 B12	5232 G3	6204 H1	6227 F5	7206 H9	7211 I7	7250 B4
1201 F9	1235 A11	1241 B12	1246 A12	2209 E2	2214 D1	2219 G2	2227 F8	2232 G8	2254 H7	3202 I6	3207 B5	3212 C4	3225 D8	3234 F1	3239 I7	3250 I9	3259 G5	3265 G5	3272 F5	3277 F5	4202 F13	4280 D9	6200 A2	6205 G8	6228 F5	7207 I9	7230 E3	7252 E5
1230 B9	1236 B10	1242 A13	2201 A1	2210 F2	2215 D1	2220 G3	2228 I2	2233 C1	2280 D9	3203 B7	3208 B5	3213 A4	3230 E2	3235 D1	3240 H5	3252 G7	3260 I8	3268 H9	3273 F6	3290 A10	4203 F13	4281 E9	6201 A2	6223 G4	7200 A4	7208 G7	7231 A5	7253 F6
1231 D10	1238 G12	1243 B9	2202 B6	2211 D2	2216 F1	2224 G6	2229 I1	2240 I5	2281 D9	3204 B7	3209 A5	3214 C4	3231 E2	3236 F1	3243 H2	3254 H7	3261 H6	3269 G7	3274 E5	3291 A10	4204 H13	5201 H6	6202 H6	6224 H5	7204 G5	7209 H7	7232 A6	9291 A10
1232 C10	1239 D12	1244 G12	2207 D3	2212 F2	2217 F1	2225 H5	2230 H2	2241 H6	3200 A2	3205 B6	3210 B5	3215 H7	3232 G1	3237 D1	3244 H1	3256 C2	3262 H9	3270 E9	3275 E5	4200 G11	4205 B12	5202 H6	6203 H6	6225 F7	7205 H2	7210 H5	7233 B7	
																								6226 I2				


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
+5V_MUTE_1
5.4V
6200
BAS316
+5V6
6201
BAS316
3200
100K
+12A
2201
1m0
3201
100K
GND_D
3213
47R
3211
33R
0.2V
7200
BC817-25
3209
1K
4.6V
7231
BC857B
4.6V
7232
BC847B
5.4V
+5V_MUTE_1
3207
4K7
3205
1K
3206
5K6
5.4V
7233
BC847B
3203
10K
MUTE_HDPH
0.2V
3204
10K
A_HP
3208
4K7
2202
10u
7250
BC817-25
3210
1K
GND_D
LOW = MUTE
(Headphone not inserted)
3214
47R
3212
33R
0.2V
+HP
3256
4K7
5.9V
HPREF
2233
100u
3257
4K7
A_HP
A_HP
2213
100p
HPREF
3237
12K
2215
22u
3235
220R
2214
1n
2211
470p
5.9V
1B_L
GND_A
5.9V
HPREF
3233
6K8
2209
180p
3231
27K
7230
NJM4556AM
+HP
VS+
INA+
INA-
INB+
INB-
VS-
O-A
O-B
A_HP
3230
27K
HPREF
3236
6K8
2210
180p
2207
47u
5.9V
AMP_L
AMP_R
2208
47u
5.9V
5.9V
2217
22u
3234
220R
2216
1n
2212
470p
5.9V
1B_R
GND_A
+HP
HPREF
3232
12K
A_HP
2218
100p
11.6V
5232
2u2
3238
10R
+12A
2219
47u
2220
22n
A_HP
DVD_5V
4.8V
3275
68R
3274
6K8
47K
3277
4.6V
BC857B
7252
BAS316
6227
+3V3
3.3V
6K8
3272
6228
BAS316
0.2V
3276
1K0
3273
10K
2242
47u
NTC
7253
BC847B
GND_D
+3V3
Over-Voltage Protection
Short-Circuit Protection
Prod start with BD438 with Heatsink and running change to BD242B without heatsink
BD438
7204
40VAC
6223
1N4003GP
-6.2V
-6.8V
3259
8K2
3265
470R
2224
22u
2226
22u 50V
2225
22u 50V
6224
BZX79-C6V8
+5V6
5.6V
BD438
7208
3252
5K6
-5V
3269
220R
0.2V
Hi = ON
DVD_5V
10K
3261
2254
470n
3254
47K
7209
BC847BW
GND_D
5.2V
+5V_DVD
2232
220u 10V
1N4003GP
6225
+5V
+5V6
2227
22u
GND_D
Diode Added for pt 3 board rework at Prod start
6814
6205
+C
7210
LM2576T-3.3
VIN
OUT
ON_/OFF FB
GND
@ 5202
33u
5201
100u
+3V3
3V3_sense
+3V3
3215
1K0
3240
47K
2240
100u
BYV27-200
6202
BYV28-200 @
6203
2241
2229
1m0 50V
7211
3202
10K
10K
3239
BC847BW
DVD_5V
Hi = ON
GND_D
BC327-25
7205
-32.4V
-Vkk
40VAC
6204
1N4003GP
3244
5K6
3243
2K2
2230
22u
-33V
2229
100u 50V
2228
100u 50V
6226
BZX79-C33
GND_D
For MX39... only
TO HDPH
& MIC PCB
+12A
MIC_OUT
MIC
MIC_DET
HP_DET
A_HP
1230
FE-BT-VK-N
Non-Karaoke
1243
FE-BT-VK-N
Karaoke
3290
40VAC
2R2
3291
2R2
9291
~F1
~F2
GND_D
GND_D
4.4V
NTC
1235
EH-B
TO MAINS TRANSFORMER
1236
FE-BT-VK-N
LPC
GND_D
+5V6_ECO
+12M
5.6V
PWD_DN
TO MAINS &
ECO STBY PCB
1232
FE-BT-VK-N
4.4V
NTC
GND_D
40VAC
5.6V
PWD_DN
TO SUPPLY PCB
Mounted with 470n for pt 3 board rework at Prod start
4280
2280
470n
3225
1K0
3224
1K0
2281
470n
4281
Rst 3270 & 3271 cut & shift to pin 10 and 8 of conn. 1232 for pt 3 board rework at Prod start
cut
cut
3270
470R
3271
470R
A_HP
A_HP
FE-BT-VK-N
1231
A_HP
AMP_ON_LRCS
AMP_C
GND_C
AMP_ON_LRCS
FREQ_HOP
NTC
4.7V
4.7V
4.4V
TO AMP PCB
AV Board to AV
Board Connection
EH-B
1200
EH-B
1201
TO SUPPLY PCB
1233
EH-B
+C
3.8V
GND_D
+5V6
GND_M
GND_A
+12A
+12M
+12M
12V
BD438
7206
+12V_DVD
11.6V
3245
5K6
11.3V
3268
1K0
3262
1K0
3263
1K0
0.2V
DVD_ON
Hi = ON
10K
3260
3250
47K
7207
BC847BW
2231
470u 16V
GND_M
FMN
1242
3.3V
3.3V
5.2V
11.9V
5.9V
-5.2V
@ 1246
FMN
# 1241
3V3_sense
4206
4205
+3V3
GND_D
+5V_DVD
+12V_DVD
GND_M
+5V
-5V
+12V_DVD
FMN-BTRK
TO DVD Module
FOR MX39XX
1239
FE-BT-VK-N
FOR MX5XXX
1240
FE-BT-VK-N
For i6000
1245
FE-BT-VK-N
A0
A1
A2
I2C_CLK3
GND_D
I2C_CLK2
GND_D
I2C_CLK1
GND_D
I2C_DATA
4.8V
DVD_ON
4.8V
DVD_5V
5.6V
+5V6
GND_D
-32V
-Vkk
4201
-26V
~F1
4200
-26V
~F2
# 4202
+12M
# 4203
VID_RGB
TO FRONT PCB
@1244
FE-BT-VK-N
1238
FE-BT-VK-N
TU_ENABLE
TU_DATA
GND_D
TU_CLK
TU_STEREO
GND_D
MUX_VU
MUX_DET
+5V6_ECO
GND_D
LPC
MUTE_SCART_LO
PWD_DN
SO
# 4204
FM_DET
3.0V
4.6V
5.8V
TO FRONT PCB

@ For i6000 only
# PROVISION

AV circuit 3139 118 35003 sheet 2 dd wk304

RE-AMPLIFIER, SUPPLY & INTERCONNECTION CIRCUIT (For pcb layout ... 35006)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7
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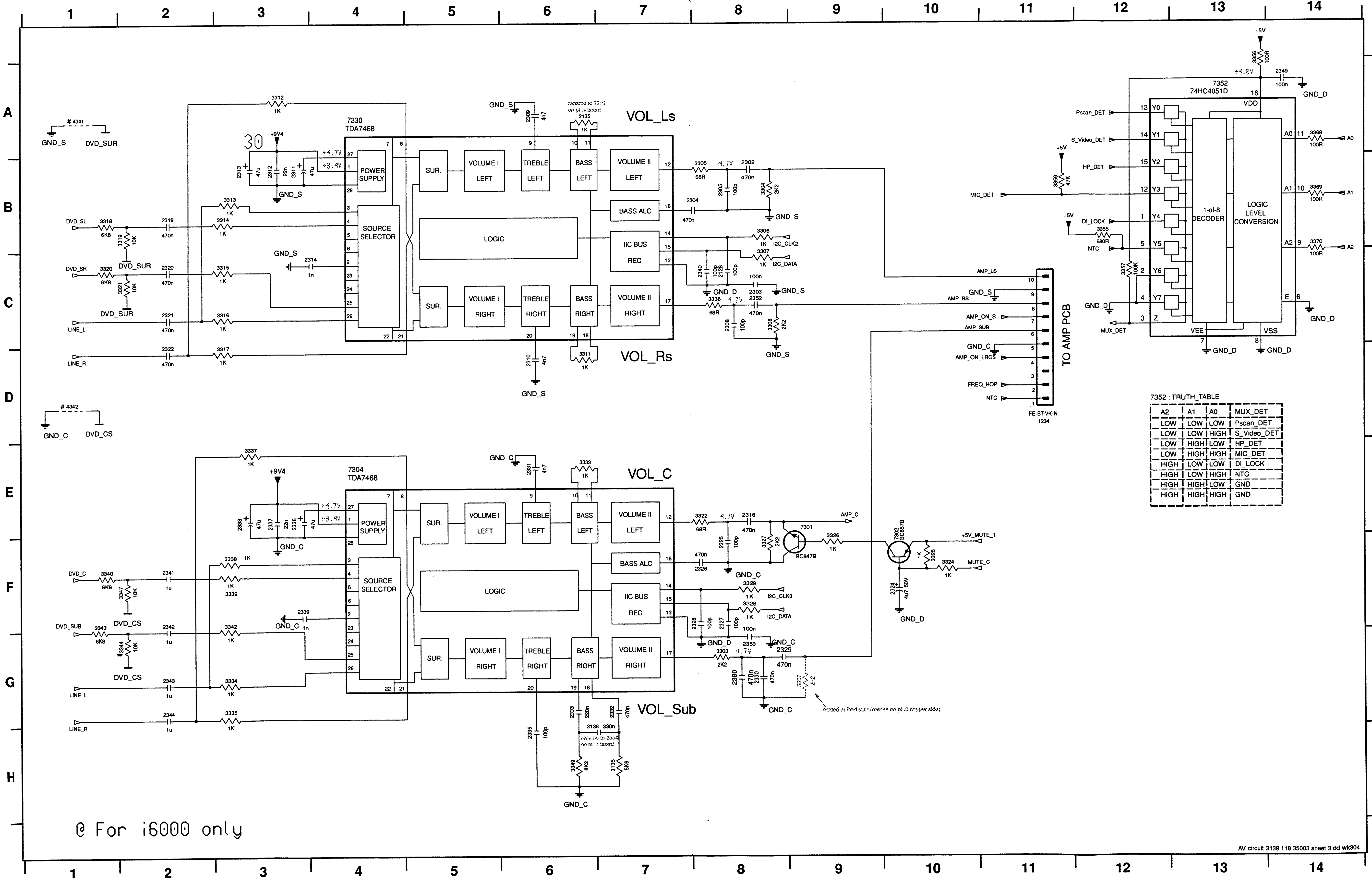
9
10
11
12
13
A
B
C
D
E
F
G
H
I
+5V_MUTE_1
5.4V
6200
BAS316
+5V6
6201
BAS316
3200
100K
+12A
2201
1m0
3201
100K
GND_D
3213
47R
3211
33R
0.2V
7200
BC817-25
3209
1K
4.6V
7231
BC857B
4.8V
7232
BC847B
5.4V
+5V_MUTE_1
3207
4K7
3205
1K
3206
5K6
5.4V
7233
BC847B
A_HP
3208
4K7
2202
10u
3203
10K
T221
MUTE_HDPH
0.2V
3204
10K
7250
BC817-25
3210
1K
GND_D
LOW = MUTE
(Headphone not inserted)
3214
47R
3212
33R
0.2V
+HP
3256
4K7
5.9V
HPREF
T220
2233
100u
3257
4K7
A_HP
A_HP
2213
100p
HPREF
3237
12K
2215
22u
3235
220R
1B_L
5.9V
2214
1n
2211
470p
GND_A
5.9V
HPREF
3233
6K8
2209
180p
3231
27K
2207
100u
5.9V
7230
NJM4556AM
+HP
8
VS+
INA+
INA-
INB+
INB-
VS-
O-A
O-B
A_HP
3230
27K
HPREF
3236
6K8
2210
180p
5.9V
5.9V
2208
100u
2217
22u
3234
220R
1B_R
2212
470p
2216
1n
5.9V
GND_A
HPREF
3232
12K
A_HP
2218
100p
+HP
T222
11.6V
5232
2u2
3238
10R
+12A
2219
47u
2220
22n
A_HP
EH-B
1245
MIC_OUT
MIC_Gnd
TO HP PCB
* 4209
For non-Kara only
+12A
T440
MIC_OUT
4209 *
MIC_Gnd
MIC_DET
HP_DET
T204
T201
T202
A_HP
T203
1230
FE-BT-VK-N
1243
FE-BT-VK-N
For Karaoke
3290
40VAC
2R2
3291
2R2
9291
-F1
-F2
T261
GND_D
T259
T260
GND_D
T215
4.4V NTC
1235
EH-B
TO TRAFO
1236
FE-BT-VK-N
LPC
T216
GND_D
T217
+5V6_ECO
+12M
5.0V PWD_DN
TO ECOSTDBY PCB
1232
FE-BT-VK-N
4.4V NTC
GND_D
40VAC
T226
5.0V PWD_DN
TO SUPPLY PCB
4280
2282
47n
2280
47n
AMP_L
3225
1K0
AMP_R
3224
1K0
2281
47n
2283
47n
4281
3270
470R
3271
470R
A_HP
A_HP
FE-BT-VK-N
1231
T205
T206
A_HP
T207
AMP_ON_LRCS
T208
AMP_C
GND_C
AMP_ON_C
FREQ_HOP
NTC
4.7V
4.7V
4.4V
TO AMP PCB
FMN
1242
3.3V
3.3V
5.2V
11.9V
5.0V
-5.2V
3V3_sense
T227
4206
4205
+3V3
T228
1241
GND_D
+5V_DVD
T229
T255
+12V_DVD
T256
GND_M
T257
+5V
T258
-5V
+12V_DVD
T254
FMN-BTRK
TO DVD Module
FOR
MX 55xx
MX 56xx
MX 57xx
MX 58xx
MX 59xx
FOR
MX 39xx
1239
FE-BT-VK-N
1240
FE-BT-VK-N
A0
T231
A1
T232
A2
T233
I2C_CLK3
T234
GND_D
T235
T236
I2C_CLK2
GND_D
T237
I2C_CLK1
GND_D
T238
I2C_DATA
T239
4.8V DVD_ON
4.8V DVD_5V
T240
T230
5.6V +5V6
T241
GND_D
T242
-32V -Vkk
4201
T243
-26V -F1
4200
T244
-26V -F2
TO FRONT PCB
DVD_5V
4.8V
3275
68R
3274
6K8
47K
3277
4.6V
7252
BC857B
BAS316
6227
BAS316
6228
+3V3
3.3V
6K8
3272
0.2V
NTC
7253
BC847B
3276
1K0
3273
10K
2242
47u
GND_D
+3V3
Over-Voltage Protection
Short-Circuit Protection
+5V6
1N4003GP
6225
+5V
2227
10u
GND_D
EH-B
1200
EH-B
1201
1233
EH-B
T209
+C 9.8V
T210
GND_D
T211
+5V6
GND_M
T212
T213
GND_A
T214
+12A
+12M
TO SUPPLY PCB
BD242B
7204
-6.2V
-5V
40VAC
6223
1N4003GP
-6.8V
2226
50V 100u
3259
8K2
3265
470R
2224
22u
2225
50 22u
6224
BZX79-C5V6
GND_D
+5V6
5.6V
BD438
7208
SS24
6205
+5V_DVD
5.2V
3252
5K6
3269
220R
5V
0.2V
Hi = ON
DVD_5V
10K
3261
2254
470n
3254
47K
7209
BC847BW
2232
220u 10V
GND_D
@ 5202
33u
5201
100u
+3V3
+3V3
7210
LM2576T-3.3
VIN
OUT
ON_OFF
FB
GND
+C
3V3_sense
3215
220R
3240
47K
2240
100u
BYV27-200
6202
BYV28-200/20
@
6203
2241
1m0
50V
7211
BC847BW
10K
3239
DVD_5V
Hi = ON
3202
10K
GND_D
+12M
12V
BD438
7206
+12V_DVD
11.6V
3245
5K6
11.3V
3268
1K0
3262
1K0
3263
1K0
0.2V
2231
470u 16V
DVD_ON
Hi = ON
10K
3260
3250
47K
7207
BC847BW
GND_M
BC327-25
7205
-32.4V
-Vkk
40VAC
6204
1N4003GP
3244
5K6
3243
2K2
-33V
2230
22u
2229
50V 100u
2228
50V 100u
6226
BZX79-C33
GND_D
For MX3900 only
@ For i6000 only
# PROVISION
1238
FE-BT-VK-N
TU_ENABLE
T253
TU_DATA
T252
GND_D
TU_CLK
T251
TU_STEREO
T250
GND_D
MUX_VU
MUX_DET
T248
+5V6_ECO
8.0V
T247
GND_D
LPC
4.6V
T246
MUTE_SCART_LO
PWD_DN
T245
5.0V
TO FRONT PCB
3139 113 35006_04 dd wk0405

1200	F9
1201	F9
1230	B9
1231	D10
1232	C10
1233	F9
1235	A11
1236	B10
1238	H12
1239	D12
1240	D12
1241	B12
1242	A13
1243	B9
1245	A9
2201	B1
2202	B6
2207	D3
2208	F3
2209	E2
2210	F2
2211	E2
2212	G2
2213	D1
2214	E1
2215	D1
2216	G1
2217	G1
2218	G1
2219	H2
2220	H3
2224	H6
2225	H5
2226	H5
2227	F8
2228	I2
2229	I1
2230	I2
2231	I9
2232	H8
2233	C2
2240	I5
2241	I6
2242	F6
2254	H7
2280	D8
2281	E8
2282	D8
2283	E8
3200	A2
3201	B2
3202	I6
3203	B7
3204	C7
3205	B6
3206	B6
3207	B5
3208	B5
3209	B5
3210	C5
3211	A4
3212	C4
3213	A4
3214	C4
3215	I7
3224	E8
3225	D8
3230	F2
3231	E2
3232	G1
3233	E1
3234	G1
3235	D1
3236	F1
3237	D1
3238	G3
3239	I7
3240	I5
3243	I2
3244	I2
3245	H9
3250	I9
3252	G7
3254	H7
3256	C2
3257	C2
3259	H5
3260	I8
3261	H6
3262	I9
3263	I9
3265	H5
3268	I9
3269	H7
3270	E9
3271	E9
3272	F5
3273	F6
3274	F5
3275	F5
3276	F5
3277	F5
3290	A10
3291	A10
4200	G12
4201	G12
4205	B12
4206	B12
4209	B9
4280	D8
4281	E8
5201	H6
5202	H6
5232	G3
6200	A2
6201	A2
6202	I6
6203	I6
6204	I1
6205	G7
6223	G4
6224	H5
6225	F7
6226	I2
6227	F5
6228	F5
7200	B4
7204	G5
7205	H2
7206	H9
7207	I9
7208	G7
7209	H7
7210	H5
7211	I7
7230	E3
7231	B5
7232	B6
7233	B7
7250	C4
7252	F5
7253	F6
9291	B10
T201	B8
T202	B8
T203	B8
T204	B8
T205	D10
T206	E10
T207	E10
T208	E10
T209	F10
T210	G10
T211	G10
T212	G10
T213	G10
T214	H10
T215	B10
T216	C10
T217	C10
T220	C2
T221	B7
T222	G2
T226	D10
T227	B11
T228	B11
T229	B12
T230	F12
T231	E12
T232	E12
T233	E12
T234	E12
T235	E12
T236	E12
T237	F12
T238	F12
T239	F12
T240	F12
T241	F12
T242	G12
T243	G12
T244	G12
T245	I12
T246	I12
T247	I12
T248	I12
T250	H12
T251	H12
T252	H12
T253	H12
T254	C12
T255	B12
T256	C12
T257	C11
T258	C11
T259	B10
T260	B10
T261	A10
T440	A9

VOLUME CONTROL SURR., CENTER & SW AND CONTROL MULTIPLEXER CIRCUIT

1234	D11
2128	C8
2135	A6
2302	B8
2303	C8
2304	B8
2305	B8
2308	C8
2309	A6
2310	D6
2311	B3
2312	B3
2313	B3
2314	C4
2318	E8
2319	B2
2320	C2
2321	C2
2322	D2
2324	F10
2325	F8
2326	F8
2327	F8
2328	F8
2329	G8
2330	G8
2331	E6
2332	G7
2333	G6
2335	H6
2336	E3
2337	E3
2338	E3
2339	F3
2340	C8
2341	F2
2342	F2
2343	G2
2344	G2
2349	A14
2352	C8
2353	G8
2380	G8
3135	H7
3136	H6
3303	G8
3304	B8
3305	B8
3306	B8
3307	C8
3308	C8
3311	D6
3312	A3
3313	B3
3314	B3
3315	C3
3316	C3
3317	D3
3318	B1
3319	B2
3320	C1
3321	C2
3322	E8
3324	F10
3325	F10
3326	F9
3327	F8
3328	F8
3329	F8
3333	E6
3334	G3
3335	G3
3336	C8
3337	E3
3338	F3
3339	F3
3340	F1
3342	F3
3343	F1
3344	G2
3347	F2
3349	H6
3355	B12
3356	A13
3357	C12
3359	B11
3368	A14
3369	B14
3370	B14
4341	A1
4342	D1
7301	E9
7302	F10
7304	E4
7330	A4
7352	A13


1
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7
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10
11
12
13
14
A
B
C
D
E
F
G
H
# 4341
GND_S
DVD_SUR
# 4342
GND_C
DVD_CS
30
+9V4
7330
TDA7468
+4.7V
+3.4V
POWER SUPPLY
SOURCE SELECTOR
SUR.
VOLUME I LEFT
TREBLE LEFT
BASS LEFT
VOLUME II LEFT
BASS ALC
LOGIC
IIC BUS REC
VOLUME I RIGHT
TREBLE RIGHT
BASS RIGHT
VOLUME II RIGHT
VOL_Ls
VOL_Rs
rename to 3310 on pt.4 board
2135 1K
3311 1K
2309 4n7
2310 4n7
3312 1K
3313 1K
3314 1K
3315 1K
3316 1K
3317 1K
DVD_SL
3318 6K8
3319 10K
DVD_SR
3320 6K8
3321 10K
LINE_L
LINE_R
2319 470n
2320 470n
2321 470n
2322 470n
2313 47u
2312 22n
2311 47u
2314 1n
3305 68R
2302 470n
2305 100p
3304 2K2
2304 470n
3306 1K
3307 1K
I2C_CLK2
I2C_DATA
2340 100p
2128 100p
2303 100n
3336 68R
2352 470n
2308 100p
3308 2K2
GND_D
AMP_LS
AMP_RS
AMP_ON_S
AMP_SUB
AMP_ON_LRCS
FREQ_HOP
NTC
FE-BT-VK-N
1234
TO AMP PCB
7304
TDA7468
VOL_C
VOL_Sub
3337 1K
3333 1K
2331 4n7
DVD_C
3340 6K8
3347 10K
DVD_SUB
3343 6K8
3344 10K
2341 1u
2342 1u
2343 1u
2344 1u
3338 1K
3339 1K
3342 1K
3334 1K
3335 1K
2338 47u
2337 22n
2336 47u
2339 1n
3322 68R
2318 470n
2325 100p
3327 2K2
7301 BC847B
3326 1K
7302 BC857B
3325 1K
3324 1K
+5V_MUTE_1
MUTE_C
AMP_C
2324 4u7 50V
2326 470n
3329 1K
3328 1K
I2C_CLK3
2328 100p
2327 100p
2353 100n
3303 2K2
2329 470n
2380 470n
2330 470n
3327 2K2
Added at Prod start (rework on pt.3 copper side)
2335 100p
2333 220n
2332 470n
3136 330n
rename to 2334 on pt.4 board
3349 8K2
3135 5K6
GND_C
+5V
3356 100R
+4.8V
2349 100n
7352
74HC4051D
VDD
Pscan_DET
S_Video_DET
HP_DET
MIC_DET
DI_LOCK
3359 47K
3355 680R
3357 100K
MUX_DET
Y0
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Z
1-of-8 DECODER
LOGIC LEVEL CONVERSION
A0
A1
A2
E_
VEE
VSS
3368 100R
3369 100R
3370 100R

7352 : TRUTH_TABLE

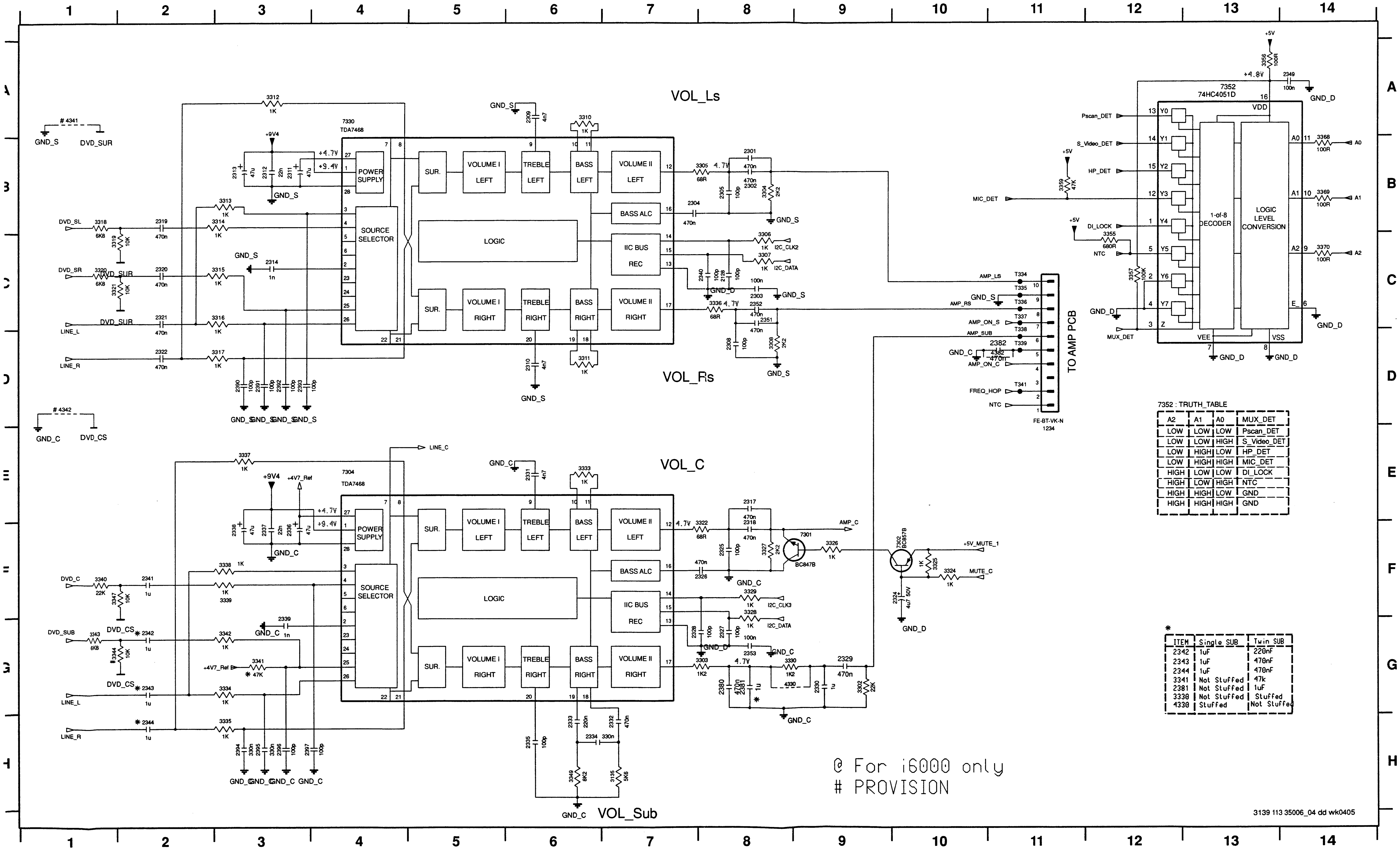
A2	A1	A0	MUX_DET
LOW	LOW	LOW	Pscan_DET
LOW	LOW	HIGH	S_Video_DET
LOW	HIGH	LOW	HP_DET
LOW	HIGH	HIGH	MIC_DET
HIGH	LOW	LOW	DI_LOCK
HIGH	LOW	HIGH	NTC
HIGH	HIGH	LOW	GND
HIGH	HIGH	HIGH	GND

@ For i6000 only

AV circuit 3139 118 35003 sheet 3 dd wk304

/OLUME CONTROL SURR., CENTER & SW AND CONTROL MULTIPLEXER CIRCUIT (For pcb layout ... 35006)

1234	E11
2128	C8
2301	B8
2302	B8
2303	C8
2304	B7
2305	B8
2308	D8
2309	A6
2310	D6
2311	B3
2312	B3
2313	B3
2314	C3
2317	E8
2318	F8
2319	B2
2320	C2
2321	C2
2322	D2
2324	F10
2325	F8
2326	F8
2327	G8
2328	G7
2329	G9
2330	G9
2331	E6
2332	H7
2333	H6
2334	H6
2335	H6
2336	F3
2337	F3
2338	F3
2339	G3
2340	C8
2341	F2
2342	G2
2343	G2
2344	H2
2349	A14
2351	C8
2352	C8
2353	G8
2380	G8
2381	G8
2382	D11
2390	D3
2391	D3
2392	D3
2393	D3
2394	H3
2395	H3
2396	H3
2397	H3
3135	H7
3302	G9
3303	G8
3304	B8
3305	B8
3306	C8
3307	C8
3308	D8
3310	A6
3311	D6
3312	A3
3313	B3
3314	B3
3315	C3
3316	C3
3317	D3
3318	B1
3319	C1
3320	C1
3321	C1
3322	F8
3324	F10
3325	F10
3326	F9
3327	F8
3328	F8
3329	F8
3330	G8
3333	E6
3334	G3
3335	H3
3336	C8
3337	E3
3338	F3
3339	F3
3340	F1
3341	G3
3342	G3
3343	G1
3344	G1
3347	F1
3349	H6
3355	C12
3356	A13
3357	C12
3359	B11
3368	B14
3369	B14
3370	C14
4330	G8
4341	A1
4342	D1
4382	D11
7301	F9
7302	F10
T334	C11
T335	C11
T336	C11
T337	C11
T338	D11
T339	D11
T341	D11


VOL_Ls
VOL_Rs
VOL_C
VOL_Sub
7330 TDA7468
7304 TDA7468
POWER SUPPLY
SOURCE SELECTOR
SUR.
VOLUME I LEFT
VOLUME I RIGHT
TREBLE LEFT
TREBLE RIGHT
BASS LEFT
BASS RIGHT
VOLUME II LEFT
VOLUME II RIGHT
BASS ALC
LOGIC
IIC BUS REC
7352 74HC4051D
1-of-8 DECODER
LOGIC LEVEL CONVERSION
VDD
VEE
VSS
Pscan_DET
S_Video_DET
HP_DET
MIC_DET
DI_LOCK
NTC
MUX_DET
A0
A1
A2
DVD_SL
DVD_SR
DVD_SUR
LINE_L
LINE_R
DVD_C
DVD_SUB
DVD_CS
LINE_C
AMP_LS
AMP_RS
AMP_ON_S
AMP_SUB
AMP_ON_C
AMP_C
FREQ_HOP
+5V_MUTE_1
MUTE_C
I2C_CLK2
I2C_DATA
I2C_CLK3
TO AMP PCB
FE-BT-VK-N 1234
7301 BC847B
7302 BC857B
+9V4
+4V7_Ref
+5V
GND_S
GND_C
GND_D
# 4341
# 4342

7352 : TRUTH_TABLE

A2	A1	A0	MUX_DET
LOW	LOW	LOW	Pscan_DET
LOW	LOW	HIGH	S_Video_DET
LOW	HIGH	LOW	HP_DET
LOW	HIGH	HIGH	MIC_DET
HIGH	LOW	LOW	DI_LOCK
HIGH	LOW	HIGH	NTC
HIGH	HIGH	LOW	GND
HIGH	HIGH	HIGH	GND

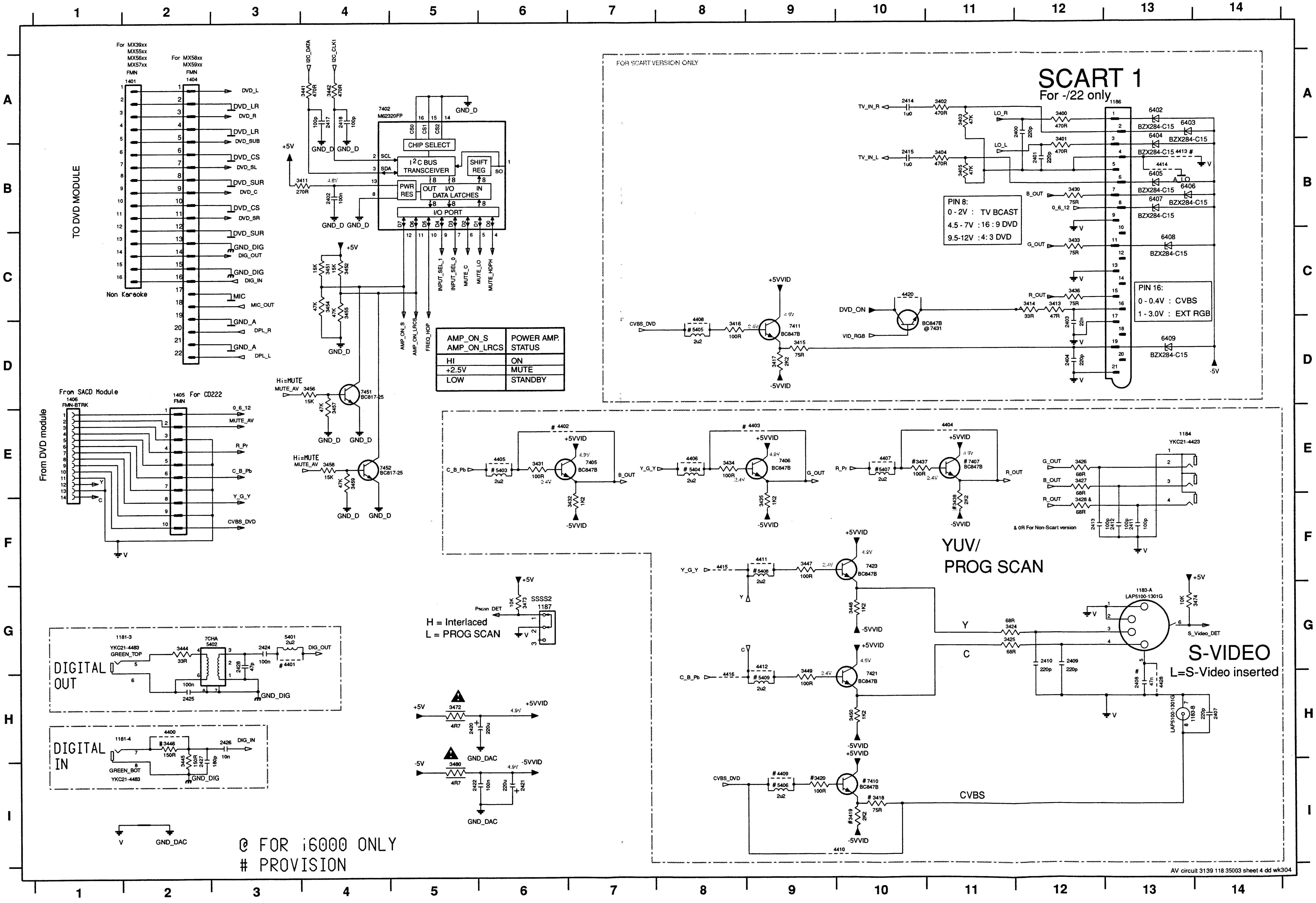
*

ITEM	Single SUB	Twin SUB
2342	1uF	220nF
2343	1uF	470nF
2344	1uF	470nF
3341	Not Stuffed	47k
2381	Not Stuffed	1uF
3330	Not Stuffed	Stuffed
4330	Stuffed	Not Stuffed

@ For i6000 only
# PROVISION

DIGITAL I/O, S-VIDEO, SCART, & I²C EXPANDER CIRCUITS

1181-3 G2
1181-4 H2
1183-A G13
1183-B H13
1184 E13
1186 A13
1187 G6
1401 A2
1404 A2
1405 D2
1406 D1
2400 A12
2401 B12
2402 B4
2403 D12
2404 D12
2407 H14
2408 H13
2409 G12
2410 G12
2411 F13
2412 F13
2413 F12
2414 A10
2415 B10
2417 A4
2418 A4
2420 H5
2421 I6
2422 I5
2424 G3
2425 H2
2426 H3
2427 H2
2428 G3
3400 A12
3401 B12
3402 A11
3403 A11
3404 B11
3405 B11
3411 B4
3413 C12
3414 C12
3415 D9
3416 D8
3417 D9
3418 I10
3419 I10
3420 I9
3424 G11
3425 G11
3426 E12
3427 E12
3428 F12
3430 B12
3431 E6
3432 F7
3433 C12
3434 E8
3435 F9
3436 C12
3437 E10
3438 F11
3441 A4
3442 A4
3444 G2
3445 H2
3446 H2
3447 F9
3448 G10
3449 H9
3450 H10
3451 C4
3452 C4
3454 C4
3455 C4
3456 D4
3457 D4
3458 E4
3459 E4
3472 H5
3473 G6
3474 G14
3480 I5
4400 H2
4401 G3
4402 E6
4403 E9
4404 E11
4405 E6
4406 E8
4407 E10
4408 D8
4409 I9
4410 I10
4411 F9
4412 G9
4413 B13
4414 B13
4415 F8
4416 H8
4420 C10
4428 H13
5401 G3
5402 G3
5403 E6
5404 E8
5405 D8
5406 I9
5407 E10
5408 F9
5409 H9
6402 A13
6403 A13
6404 A13
6405 B13
6406 B13
6407 B13
6408 C13
6409 D13
7402 A4
7405 E7
7406 E9
7407 E11
7410 I10
7411 D9
7421 H10
7423 F10
7431 D11
7451 D4
7452 E4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11
12
13
14
A
B
C
D
E
F
G
H
I
For MX39xx
MX55xx
MX56xx
MX57xx
FMN
1401
For MX58xx
MX59xx
FMN
1404
TO DVD MODULE
Non Karaoke
DVD_L
DVD_LR
DVD_R
DVD_SUB
DVD_CS
DVD_SL
DVD_SUR
DVD_C
DVD_SR
GND_DIG
DIG_OUT
DIG_IN
MIC
MIC_OUT
GND_A
DPL_R
DPL_L
From SACD Module
1406
FMN-BTRK
1405 For CD222
FMN
From DVD module
0_6_12
MUTE_AV
R_Pr
C_B_Pb
Y_G_Y
CVBS_DVD
I2C_DATA
I2C_CLK1
7402
M62320FP
CHIP SELECT
I²C BUS TRANSCEIVER
SHIFT REG
PWR RES
OUT I/O IN
DATA LATCHES
I/O PORT
SCL
SDA
GND_D
+5V
INPUT_SEL_1
INPUT_SEL_0
MUTE_C
MUTE_LO
MUTE_HDPH
AMP_ON_S
AMP_ON_LRCS
FREQ_HOP
Hi=MUTE
7451
BC817-25
7452
BC817-25
FOR SCART VERSION ONLY
SCART 1
For -/22 only
1186
TV_IN_R
TV_IN_L
LO_R
LO_L
B_OUT
G_OUT
R_OUT
DVD_ON
VID_RGB
BC847B
@7431
CVBS_DVD
7411
BC847B
+5VVID
-5VVID
BZX284-C15
6402
6403
6404
6405
6406
6407
6408
6409
YUV/
PROG SCAN
7405
7406
7407
BC847B
1184
YKC21-4423
& 0R For Non-Scart version
7423
7421
7410
Y
C
CVBS
1183-A
LAP5100-1301G
S_Video_DET
S-VIDEO
L=S-Video inserted
Pscan DET
SSSS2
1187
H = Interlaced
L = PROG SCAN
1181-3
YKC21-4483
GREEN_TOP
7CHA
5402
DIGITAL OUT
DIG_OUT
GND_DIG
1181-4
GREEN_BOT
YKC21-4483
DIGITAL IN
DIG_IN
GND_DAC
+5VVID
-5VVID
V
AV circuit 3139 118 35003 sheet 4 dd wk304

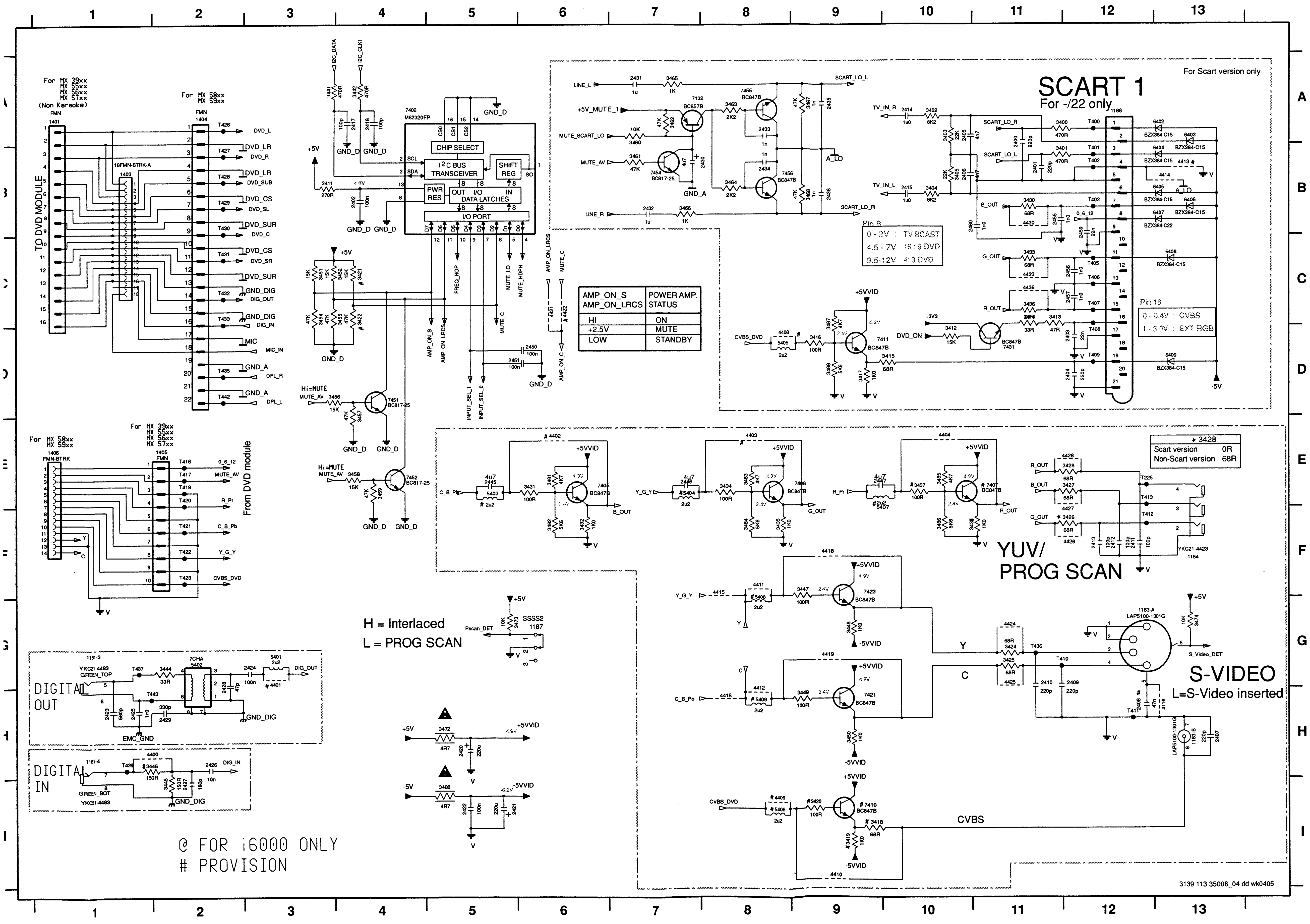
PIN 8:
0 - 2V : TV BCAST
4.5 - 7V : 16 : 9 DVD
9.5-12V : 4 : 3 DVD

PIN 16:
0 - 0.4V : CVBS
1 - 3.0V : EXT RGB

AMP_ON_S AMP_ON_LRCS	POWER AMP. STATUS
HI	ON
+2.5V	MUTE
LOW	STANDBY

@ FOR i6000 ONLY
# PROVISION

IGITAL I/O, S-VIDEO, SCART, & I^2C EXPANDER CIRCUITS (For pcb layout ... 35006)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10
11
12
13
A
B
C
D
E
F
G
H
I
For MX 39xx MX 55xx MX 56xx MX 57xx (Non Karaoke)
For MX 58xx MX 59xx
FMN 1401
FMN 1404
18FMN-BTRK-A 1403
TO DVD MODULE
DVD_L
DVD_LR
DVD_R
DVD_SUB
DVD_CS
DVD_SL
DVD_SUR
DVD_C
DVD_SR
GND_DIG
DIG_OUT
DIG_IN
MIC
MIC_IN
GND_A
DPL_R
DPL_L
I2C_DATA
I2C_CLK1
7402 M62320FP
CHIP SELECT
I²C BUS TRANSCEIVER
SHIFT REG
PWR RES
OUT I/O IN DATA LATCHES
I/O PORT
SCL
SDA
GND_D
+5V
FREQ_HOP
MUTE_LO
MUTE_HDPH
AMP_ON_S
AMP_ON_LRCS
AMP_ON_C
MUTE_C
INPUT_SEL_1
INPUT_SEL_0
AMP_ON_S | POWER AMP.
AMP_ON_LRCS | STATUS
HI | ON
+2.5V | MUTE
LOW | STANDBY
Hi=MUTE MUTE_AV
7451 BC817-25
7452 BC817-25
For MX 58xx MX 59xx
1406 FMN-BTRK
For MX 39xx MX 55xx MX 56xx MX 57xx
1405 FMN
From DVD module
0_6_12
MUTE_AV
R_Pr
C_B_Pb
Y_G_Y
CVBS_DVD
DIGITAL OUT
1181-3 YKC21-4483 GREEN_TOP
7CHA 5402
DIG_OUT
EMC_GND
DIGITAL IN
1181-4 GREEN_BOT YKC21-4483
DIG_IN
H = Interlaced
L = PROG SCAN
Pscan_DET
SSSS2 1187
+5VVID
-5VVID
@ FOR i6000 ONLY
# PROVISION
SCART 1
For -/22 only
For Scart version only
LINE_L
+5V_MUTE_1
MUTE_SCART_LO
MUTE_AV
LINE_R
SCART_LO_L
SCART_LO_R
7132 BC857B
7455 BC847B
7454 BC817-25
7456 BC847B
A_LO
GND_A
TV_IN_R
TV_IN_L
SCART_LO_R
SCART_LO_L
B_OUT
G_OUT
R_OUT
BZX384-C15
BZX384-C22
Pin 8
0 - 2V : TV BCAST
4.5 - 7V : 16 : 9 DVD
9.5-12V : 4 : 3 DVD
Pin 16
0 - 0.4V : CVBS
1 - 3.0V : EXT RGB
CVBS_DVD
DVD_ON
7411 BC847B
7431 BC847B
1186
+3V3
-5V
YUV/ PROG SCAN
7405 BC847B
7406 BC847B
# 7407 BC847B
* 3428
Scart version | 0R
Non-Scart version | 68R
YKC21-4423 1184
7423 BC847B
7421 BC847B
# 7410 BC847B
Y
C
CVBS
1183-A LAP5100-1301G
S_Video_DET
1183-B LAP5100-1301G
S-VIDEO
L=S-Video inserted
3139 113 35006_04 dd wk0405

1181-3	G1
1181-4	H1
1183-A	G12
1183-B	H13
1184	F13
1186	A12
1187	G6
1401	A1
1403	B1
1404	A2
1405	E2
1406	E1
2400	A11
2401	B11
2402	B4
2403	D12
2404	D12
2405	A10
2406	B10
2407	H13
2408	H12
2409	G12
2410	G11
2411	F12
2412	F12
2413	F12
2414	A10
2415	B10
2417	A4
2418	A4
2420	H5
2421	I5
2422	I5
2423	H1
2424	G3
2425	H1
2426	H2
2427	I2
2428	G2
2429	H2
2430	B8
2431	A7
2432	B7
2433	A8
2434	B8
2435	A9
2436	B9
2445	E5
2446	E7
2447	E9
2450	D6
2451	D5
2455	B11
2456	C12
2457	C12
2459	B12
2460	B11
3400	A11
3401	B11
3402	A10
3403	A10
3404	B10
3405	B10
3411	B3
3412	D10
3413	C11
3414	C11
3415	D10
3416	D9
3417	D9
3418	I9
3419	I9
3420	I9
3421	C4
3422	C4
3424	G11
3425	G11
3426	F12
3427	E12
3428	E12
3430	B11
3431	E6
3432	F6
3433	C11
3434	E8
3435	F8
3436	C11
3437	E10
3438	F11
3441	A3
3442	A4
3444	G2
3445	I2
3446	H1
3447	F9
3448	G9
3449	H9
3450	H9
3451	C3
3452	C4
3454	C3
3455	C4
3456	D3
3457	D4
3458	E4
3459	E4
3460	A7
3461	B7
3462	A7
3463	A8
3464	B8
3465	A7
3466	B7
3467	A9
3468	B9
3472	H5
3473	G5
3474	G13
3480	I5
3481	E6
3482	F6
3483	E8
3484	F8
3485	E10
3486	F10
3487	C9
3488	D9
4116	H13
4400	H1
4401	G3
4402	E6
4403	E8
4404	E10
4408	D8
4409	I8
4410	I9
4411	F8
4412	H8
4413	B13
4414	B13
4415	F8
4416	H8
4418	F9
4419	G9
4421	C6
4422	C6
4424	G11
4425	G11
4426	F12
4427	F12
4428	E12
4430	B11
4433	C11
4436	C11
5401	G3
5402	G2
5403	E5
5404	E7
5405	D8
5406	I8
5407	F10
5408	G8
5409	H8
6402	A13
6403	A13
6404	B13
6405	B13
6406	B13
6407	B13
6408	C13
6409	D13
7132	A8
7402	A4
7405	E6
7406	E9
7407	E11
7410	I9
7411	D9
7421	H9
7423	F9
7431	D11
7451	D4
7452	E4
7454	B7
7455	A8
7456	B8
T225	E12
T400	A12
T401	B12
T402	B12
T403	B12
T405	C12
T406	C12
T407	C12
T408	D12
T409	D12
T410	G11
T411	H12
T412	F12
T413	E12
T416	E2
T417	E2
T419	E2
T420	E2
T421	F2
T422	F2
T423	F2
T426	A2
T427	B2
T428	B2
T429	B2
T430	B2
T431	C2
T432	C2
T433	C2
T435	D2
T436	G11
T437	G1
T439	H1
T442	D2
T443	H1

ELECTRICAL PARTS LIST - AV BOARD

MISCELLANEOUS

1181	2422 026 05399	Socket Cinch Dig-out/Aux-in
1182	4822 267 31823	Socket Cinch TV-in/Line-out
1183	2422 033 00468	Socket CVBS/S-Video Out
1184	2422 026 05342	Socket YUV Out
1187	2422 127 00476	Switch Pro-SCAN
1230	4822 267 10733	FFC Socket 4P Vert.
1231	4822 267 10729	FFC Socket 10P Vert.
1232	4822 267 10733	FFC Socket 4P Vert.
1234	4822 267 10729	FFC Socket 10P Vert.
1236	4822 267 10954	FFC Socket 5P Vert.
1237	4822 265 11515	FFC Socket 8P Vert.
1238	4822 267 10738	FFC Socket 13P Vert.
1239	4822 267 10871	FFC Socket 17P Vert.
1242	2422 025 16591	FFC Socket 13P Vert.
1401	2422 025 16525	FFC Socket 16P Vert.
1405	2422 025 16587	FFC Socket 10P Vert.

CAPACITORS

2100	3198 016 31020	1nF 10% 25V
2101	3198 016 31020	1nF 10% 25V
2102	2238 586 59812	100nF 10% 50V
2103	2020 552 94427	100pF 5% 50V
2104	2020 552 94427	100pF 5% 50V
2105	3198 017 44740	470nF 10V
2106	3198 017 44740	470nF 10V
2107	2020 552 96327	330nF 10% 16V
2108	4822 126 13879	220nF +80/-20% 16V
2109	2020 552 94427	100pF 5% 50V
2110	5322 126 11579	3,3nF 10% 63V
2111	3198 016 31020	1nF 10% 25V
2112	5322 126 11583	10nF 10% 50V
2113	3198 017 44740	470nF 10V
2114	3198 017 44740	470nF 10V
2115	2020 552 96327	330nF 10% 16V
2116	4822 126 13879	220nF +80/-20% 16V
2117	4822 126 14238	2,2nF 50V
2118	5322 126 11579	3,3nF 10% 63V
2119	3198 016 31020	1nF 10% 25V
2120	5322 126 11583	10nF 10% 50V
2121	3198 017 44740	470nF 10V
2122	4822 126 14494	22nF 10% 25V
2123	4822 124 81151	22uF 20% 50V
2124	4822 124 40196	220uF 20% 16V
2125	4822 126 14238	2,2nF 50V
2126	4822 124 40433	47uF 20% 25V
2127	2020 552 94427	100pF 5% 50V
2128	2020 552 94427	100pF 5% 50V
2129	2238 586 59812	100nF 10% 50V
2130	2238 586 59812	100nF 10% 50V
2135	Refer to resistor 3310	
2136	2238 586 59812	100nF 10% 50V
2139	2238 586 59812	100nF 10% 50V
2143	2238 586 59812	100nF 10% 50V
2144	4822 126 13956	68pF 5% 63V
2145	4822 126 13956	68pF 5% 63V
2150	4822 126 14043	1uF +80/-20% 16V
2151	4822 126 14043	1uF +80/-20% 16V
2152	3198 016 38210	820pF 10% 25V
2153	3198 016 38210	820pF 10% 25V
2154	4822 126 14043	1uF +80/-20% 16V
2155	4822 126 14043	1uF +80/-20% 16V
2156	2020 552 94427	100pF 5% 50V
2157	2020 552 94427	100pF 5% 50V
2160	4822 126 13956	68pF 5% 63V
2161	4822 126 13956	68pF 5% 63V
2162	4822 126 14491	2,2uF +80/-20% 10V
2163	3198 016 31020	1nF 10% 25V
2164	3198 016 31020	1nF 10% 25V
2165	3198 016 31020	1nF 10% 25V
2166	4822 124 40769	4,7uF 20% 100V
2167	4822 126 14491	2,2uF +80/-20% 10V
2168	3198 016 31020	1nF 10% 25V
2170	4822 126 14238	2,2nF 50V
2172	3198 017 34730	47nF 16V
2173	3198 017 34730	47nF 16V
2187	2238 586 59812	100nF 10% 50V
2188	2238 586 59812	100nF 10% 50V
2190	2020 552 94427	100pF 5% 50V
2191	2020 552 94427	100pF 5% 50V
2192	2020 552 94427	100pF 5% 50V
2193	2020 552 94427	100pF 5% 50V
2194	2020 552 94427	100pF 5% 50V
2195	2020 552 94427	100pF 5% 50V
2196	2020 552 94427	100pF 5% 50V
2197	2020 552 94427	100pF 5% 50V
2198	2020 552 94427	100pF 5% 50V
2201	4822 124 40184	1000uF 20% 10V
2202	4822 124 40248	10uF 20% 63V
2207	4822 124 41751	47uF 20% 50V
2208	4822 124 41751	47uF 20% 50V
2209	4822 126 14508	180pF 5% 50V
2210	4822 126 14508	180pF 5% 50V
2211	4822 126 13881	470pF 5% 50V
2212	4822 126 13881	470pF 5% 50V
2213	2020 552 94427	100pF 5% 50V
2214	3198 016 31020	1nF 10% 25V
2215	4822 124 81151	22uF 20% 50V
2216	3198 016 31020	1nF 10% 25V
2217	4822 124 81151	22uF 20% 50V
2218	2020 552 94427	100pF 5% 50V
2219	4822 124 40433	47uF 20% 25V
2220	4822 126 14494	22nF 10% 25V
2224	4822 124 81151	22uF 20% 50V
2225	4822 124 81151	22uF 20% 50V

ELECTRICAL PARTS LIST - AV BOARD

2226	4822 124 40255	100uF 20% 63V
2227	4822 124 81151	22uF 20% 50V
2228	4822 124 40255	100uF 20% 63V
2229	4822 124 40255	100uF 20% 63V
2230	4822 124 81151	22uF 20% 50V
2231	4822 124 80791	470uF 20% 16V
2232	4822 124 40196	220uF 20% 16V
2233	4822 124 41584	100uF 20% 10V
2240	2020 012 93583	100uF 20% 25V
2241	3198 026 51020	1000uF 20% 50V
2242	4822 124 40433	47uF 20% 25V
2254	3198 017 44740	470nF 10V
2280	3198 017 44740	470nF 10V
2281	3198 017 44740	470nF 10V
2282	3198 017 44740	470nF 10V
2283	3198 017 44740	470nF 10V
2302	3198 017 44740	470nF 10V
2303	2238 586 59812	100nF 10% 50V
2304	3198 017 44740	470nF 10V
2305	2020 552 94427	100pF 5% 50V
2308	2020 552 94427	100pF 5% 50V
2309	4822 126 13193	4,7nF 10% 63V
2310	4822 126 13193	4,7nF 10% 63V
2311	4822 124 40433	47uF 20% 25V
2312	4822 126 14494	22nF 10% 25V
2313	4822 124 40433	47uF 20% 25V
2314	3198 016 31020	1nF 10% 25V
2318	3198 017 41050	1uF +80/-20% 10V
2319	3198 017 44740	470nF 10V
2320	3198 017 44740	470nF 10V
2321	3198 017 44740	470nF 10V
2322	3198 017 44740	470nF 10V
2324	4822 124 12032	4,7uF 20% 50V
2325	2020 552 94427	100pF 5% 50V
2326	3198 017 44740	470nF 10V
2327	2020 552 94427	100pF 5% 50V
2328	2020 552 94427	100pF 5% 50V
2329	2020 552 96684	470nF 10% 16V
2330	4822 126 14472	1uF 10% 10V
2331	4822 126 13193	4,7nF 10% 63V
2332	2020 552 96684	470nF 10% 25V
2333	2020 552 96326	220nF 10% 16V
2334	2222 780 15656	330nF 10% 16V
2335	2020 552 94427	100pF 5% 50V
2336	4822 124 40433	47uF 20% 25V
2337	4822 126 14494	22nF 10% 25V
2338	4822 124 40433	47uF 20% 25V
2339	3198 016 31020	1nF 10% 25V
2340	2020 552 94427	100pF 5% 50V
2341	4822 126 14043	1uF +80/-20% 16V
2342	4822 126 14043	1uF +80/-20% 16V
2343	4822 126 14043	1uF +80/-20% 16V
2344	4822 126 14043	1uF +80/-20% 16V
2349	2238 586 59812	100nF 10% 50V
2352	3198 017 41050	1uF +80/-20% 10V
2353	2238 586 59812	100nF 10% 50V
2380	2020 552 96684	470nF 10% 25V
2390	2020 552 94427	100pF 5% 50V
2391	2020 552 94427	100pF 5% 50V
2392	2020 552 94427	100pF 5% 50V
2393	2020 552 94427	100pF 5% 50V
2394	2020 552 94427	100pF 5% 50V
2395	2020 552 94427	100pF 5% 50V
2396	2020 552 94427	100pF 5% 50V
2397	2020 552 94427	100pF 5% 50V
2402	2238 586 59812	100nF 10% 50V
2407	4822 126 13883	220pF 5% 50V
2409	4822 126 13883	220pF 5% 50V
2410	4822 126 13883	220pF 5% 50V
2411	2020 552 94427	100pF 5% 50V
2412	2020 552 94427	100pF 5% 50V
2413	2020 552 94427	100pF 5% 50V
2417	2020 552 94427	100pF 5% 50V
2418	2020 552 94427	100pF 5% 50V
2420	4822 124 40196	220uF 20% 16V
2421	4822 124 40196	220uF 20% 16V
2422	2238 586 59812	100nF 10% 50V
2423	4822 126 14249	560pF 25V
2424	2238 586 59812	100nF 10% 50V
2425	3198 016 31020	1nF 50V
2426	5322 126 11583	10nF 10% 50V
2427	4822 126 14508	180pF 5% 50V
2428	4822 126 11785	47pF 5% 50V
2429	4822 126 14241	330pF 50V
2445	2020 552 96305	4,7uF +80/-20% 10V
2446	2020 552 96305	4,7uF +80/-20% 10V
2450	2238 586 59812	100nF 10% 50V
2451	2238 586 59812	100nF 10% 50V

RESISTORS

3100	4822 051 30221	220R 5% 0,062W
3101	4822 051 30221	220R 5% 0,062W
3102	4822 051 30102	1k 5% 0,062W
3103	4822 051 30102	1k 5% 0,062W
3104	4822 051 30562	5k6 5% 0,063W
3105	4822 117 12902	8k2 1% 0,063W
3106	4822 051 30562	5k6 5% 0,063W
3107	4822 051 30183	18k 5% 0,062W
3108	4822 051 30103	10k 5% 0,062W
3109	4822 117 12925	47k 1% 0,063W
3110	4822 051 30682	6k8 5% 0,062W
3111	4822 051 30562	5k6 5% 0,063W
3112	4822 117 12902	8k2 1% 0,063W
3113	4822 051 30183	18k 5% 0,062W

LECTRICAL PARTS LIST - AV BOARD

ESISTORS

114	4822 051 30103	10k 5% 0,062W
115	4822 051 30562	5k6 5% 0,063W
116	4822 117 12925	47k 1% 0,063W
117	4822 051 30103	10k 5% 0,062W
122	4822 051 30682	6k8 5% 0,062W
123	4822 051 30271	270R 5% 0,062W
124	4822 051 30271	270R 5% 0,062W
125	4822 051 30271	270R 5% 0,062W
126	4822 051 30271	270R 5% 0,062W
127	4822 051 30102	1k 5% 0,062W
128	4822 117 12891	220k 1% 0,062W
129	4822 117 12891	220k 1% 0,062W
130	4822 051 30101	100R 5% 0,062W
131	4822 051 30101	100R 5% 0,062W
132	4822 051 30101	100R 5% 0,062W
133	4822 051 30101	100R 5% 0,062W
135	4822 051 30562	5k6 5% 0,063W
136	Refer to capacitor 2334	
137	4822 051 30103	10k 5% 0,062W
140	4822 117 12925	47k 1% 0,063W
142	4822 051 30332	3k3 5% 0,062W
143	4822 117 12925	47k 1% 0,063W
145	4822 051 30332	3k3 5% 0,062W
146	4822 117 12925	47k 1% 0,063W
147	4822 117 12925	47k 1% 0,063W
148	4822 051 30332	3k3 5% 0,062W
149	4822 051 30332	3k3 5% 0,062W
150	4822 051 30102	1k 5% 0,062W
151	4822 051 30471	470R 5% 0,062W
152	4822 117 12925	47k 1% 0,063W
153	4822 051 30222	2k2 5% 0,062W
154	4822 117 12925	47k 1% 0,063W
155	4822 051 30103	10k 5% 0,062W
156	4822 051 30222	2k2 5% 0,062W
157	4822 051 30102	1k 5% 0,062W
158	4822 051 30471	470R 5% 0,062W
159	4822 117 12925	47k 1% 0,063W
160	4822 051 30102	1k 5% 0,062W
161	4822 051 30222	2k2 5% 0,062W
162	4822 051 30102	1k 5% 0,062W
163	4822 051 30332	3k3 5% 0,062W
164	4822 051 30332	3k3 5% 0,062W
165	4822 051 30332	3k3 5% 0,062W
166	4822 051 30332	3k3 5% 0,062W
170	4822 117 12925	47k 1% 0,063W
180	4822 051 30103	10k 5% 0,062W
182	4822 051 30103	10k 5% 0,062W
183	4822 051 30103	10k 5% 0,062W
200	4822 117 13632	100k 1% 0,062W
201	4822 117 13632	100k 1% 0,062W
202	4822 051 30103	10k 5% 0,062W
203	4822 051 30103	10k 5% 0,062W

3204	4822 051 30103	10k 5% 0,062W
3205	4822 051 30102	1k 5% 0,062W
3206	4822 051 30562	5k6 5% 0,063W
3207	4822 051 30472	4k7 5% 0,062W
3208	4822 051 30472	4k7 5% 0,062W
3209	4822 051 30102	1k 5% 0,062W
3210	4822 051 30102	1k 5% 0,062W
3211	4822 051 30339	33R 5% 0,062W
3212	4822 051 30339	33R 5% 0,062W
3213	4822 051 30479	47R 5% 0,062W
3214	4822 051 30479	47R 5% 0,062W
3224	4822 051 30102	1k 5% 0,062W
3225	4822 051 30102	1k 5% 0,062W
3230	4822 051 30273	27k 5% 0,062W
3231	4822 051 30273	27k 5% 0,062W
3232	4822 051 30123	12k 5% 0,062W
3233	4822 051 30682	6k8 5% 0,062W
3234	4822 051 30221	220R 5% 0,062W
3235	4822 051 30221	220R 5% 0,062W
3236	4822 051 30682	6k8 5% 0,062W
3237	4822 051 30123	12k 5% 0,062W
3238	4822 052 10109 ⚠	10R 5% 0,33W
3239	4822 051 30103	10k 5% 0,062W
3240	4822 117 12925	47k 1% 0,063W
3243	4822 051 30222	2k2 5% 0,062W
3244	4822 051 30562	5k6 5% 0,063W
3245	4822 051 30562	5k6 5% 0,063W
3250	4822 117 12925	47k 1% 0,063W
3252	4822 051 30562	5k6 5% 0,063W
3254	4822 117 12925	47k 1% 0,063W
3256	4822 051 30472	4k7 5% 0,062W
3257	4822 051 30472	4k7 5% 0,062W
3259	4822 117 12902	8k2 1% 0,063W
3260	4822 051 30103	10k 5% 0,062W
3261	4822 051 30103	10k 5% 0,062W
3262	4822 051 30102	1k 5% 0,062W
3263	4822 051 30102	1k 5% 0,062W
3265	4822 051 30471	470R 5% 0,062W
3268	4822 051 30102	1k 5% 0,062W
3269	4822 051 30221	220R 5% 0,062W
3270	4822 051 30471	470R 5% 0,062W
3271	4822 051 30471	470R 5% 0,062W
3272	4822 051 30682	6k8 5% 0,062W
3273	4822 051 30103	10k 5% 0,062W
3274	4822 051 30682	6k8 5% 0,062W
3275	4822 051 30689	68R 5% 0,063W
3276	4822 051 30102	1k 5% 0,062W
3277	4822 117 12925	47k 1% 0,063W
3290	4822 052 10108 ⚠	1R 5% 0,33W
3302	4822 051 30223	22k 5% 0,062W
3303	4822 117 11817	1k2 1% 0,062W
3304	4822 051 30222	2k2 5% 0,062W

ELECTRICAL PARTS LIST - AV BOARD

3305	4822 051 30689	68R 5% 0,063W
3306	4822 051 30102	1k 5% 0,062W
3307	4822 051 30102	1k 5% 0,062W
3308	4822 051 30222	2k2 5% 0,062W
3310	4822 051 30102	1k 5% 0,062W
3311	4822 051 30102	1k 5% 0,062W
3312	4822 051 30102	1k 5% 0,062W
3313	4822 051 30102	1k 5% 0,062W
3314	4822 051 30102	1k 5% 0,062W
3315	4822 051 30102	1k 5% 0,062W
3316	4822 051 30102	1k 5% 0,062W
3317	4822 051 30102	1k 5% 0,062W
3318	4822 051 30682	6k8 5% 0,062W
3319	4822 051 30103	10k 5% 0,062W
3320	4822 051 30682	6k8 5% 0,062W
3321	4822 051 30103	10k 5% 0,062W
3322	4822 051 30689	68R 5% 0,063W
3324	4822 051 30102	1k 5% 0,062W
3325	4822 051 30102	1k 5% 0,062W
3326	4822 051 30102	1k 5% 0,062W
3327	4822 051 30222	2k2 5% 0,062W
3328	4822 051 30102	1k 5% 0,062W
3329	4822 051 30102	1k 5% 0,062W
3333	4822 051 30102	1k 5% 0,062W
3334	4822 051 30102	1k 5% 0,062W
3335	4822 051 30102	1k 5% 0,062W
3336	4822 051 30689	68R 5% 0,063W
3337	4822 051 30102	1k 5% 0,062W
3338	4822 051 30102	1k 5% 0,062W
3339	4822 051 30102	1k 5% 0,062W
3340	4822 051 30223	22k 5% 0,062W
3342	4822 051 30102	1k 5% 0,062W
3343	4822 051 30682	6k8 5% 0,062W
3347	4822 051 30103	10k 5% 0,062W
3349	4822 117 12902	8k2 1% 0,063W
3355	4822 051 30681	680R 5% 0,062W
3356	4822 051 30101	100R 5% 0,062W
3357	4822 117 13632	100k 1% 0,062W
3359	4822 117 12925	47k 1% 0,063W
3368	4822 051 30101	100R 5% 0,062W
3369	4822 051 30101	100R 5% 0,062W
3370	4822 051 30101	100R 5% 0,062W
3411	4822 051 30271	270R 5% 0,062W
3424	4822 051 30689	68R 5% 0,063W
3425	4822 051 30689	68R 5% 0,063W
3426	4822 051 30689	68R 5% 0,063W
3427	4822 051 30689	68R 5% 0,063W
3431	4822 051 30101	100R 5% 0,062W
3432	4822 117 11817	1k2 1% 0,062W
3434	4822 051 30101	100R 5% 0,062W
3435	4822 117 11817	1k2 1% 0,062W
3438	4822 117 11817	1k2 1% 0,062W

3441	4822 051 30471	470R 5% 0,062W
3442	4822 051 30471	470R 5% 0,062W
3444	4822 051 30339	33R 5% 0,062W
3445	4822 051 30151	150R 5% 0,062W
3447	4822 051 30101	100R 5% 0,062W
3448	4822 117 11817	1k2 1% 0,062W
3449	4822 051 30101	100R 5% 0,062W
3450	4822 117 11817	1k2 1% 0,062W
3451	4822 051 30153	15k 5% 0,062W
3452	4822 051 30153	15k 5% 0,062W
3454	4822 117 12925	47k 1% 0,063W
3455	4822 117 12925	47k 1% 0,063W
3456	4822 051 30153	15k 5% 0,062W
3457	4822 117 12925	47k 1% 0,063W
3458	4822 051 30153	15k 5% 0,062W
3459	4822 117 12925	47k 1% 0,063W
3472	4822 052 10478 ⚠	4R7 5% 0,33W
3473	4822 051 30103	10k 5% 0,062W
3474	4822 051 30103	10k 5% 0,062W
3480	4822 052 10478 ⚠	4R7 5% 0,33W
3481	4822 051 30472	4k7 5% 0,062W
3482	4822 051 30562	5k6 5% 0,063W
3483	4822 051 30472	4k7 5% 0,062W
3484	4822 051 30562	5k6 5% 0,063W
4103	4822 051 30008	0R Jumper 0603
4104	4822 051 30008	0R Jumper 0603
4107	4822 051 30008	0R Jumper 0603
4116	4822 051 30008	0R Jumper 0603
4193	4822 051 30008	0R Jumper 0603
4194	4822 051 30008	0R Jumper 0603
4196	4822 051 30008	0R Jumper 0603
4197	4822 051 30008	0R Jumper 0603
4198	4822 051 30008	0R Jumper 0603
4200	4822 051 30008	0R Jumper 0603
4201	4822 051 30008	0R Jumper 0603
4205	4822 051 30008	0R Jumper 0603
4206	4822 051 30008	0R Jumper 0603
4209	4822 051 30008	0R Jumper 0603
4330	4822 051 30008	0R Jumper 0603
4341	4822 051 30008	0R Jumper 0603
4342	4822 051 30008	0R Jumper 0603
4382	4822 051 30008	0R Jumper 0603
4400	4822 051 30008	0R Jumper 0603
4404	4822 051 30008	0R Jumper 0603
4409	4822 051 30008	0R Jumper 0603
4410	4822 051 30008	0R Jumper 0603
4411	4822 051 30008	0R Jumper 0603
4412	4822 051 30008	0R Jumper 0603
4414	4822 051 30008	0R Jumper 0603
4415	4822 051 30008	0R Jumper 0603
4416	4822 051 30008	0R Jumper 0603
4421	4822 051 30008	0R Jumper 0603

ELECTRICAL PARTS LIST - AV BOARD

RESISTORS

4428	4822 051 30008	0R Jumper 0603
4500	4822 051 30008	0R Jumper 0603
4501	4822 051 30008	0R Jumper 0603
4502	4822 051 30008	0R Jumper 0603
4503	4822 051 30008	0R Jumper 0603
4504	4822 051 30008	0R Jumper 0603
4505	4822 051 30008	0R Jumper 0603
4506	4822 051 30008	0R Jumper 0603
4507	4822 051 30008	0R Jumper 0603
4508	4822 051 30008	0R Jumper 0603
4510	4822 051 30008	0R Jumper 0603
4511	4822 051 30008	0R Jumper 0603
4512	4822 051 30008	0R Jumper 0603
4513	4822 051 30008	0R Jumper 0603
4514	4822 051 30008	0R Jumper 0603
4515	4822 051 30008	0R Jumper 0603
4516	4822 051 30008	0R Jumper 0603
4517	4822 051 30008	0R Jumper 0603
4518	4822 051 30008	0R Jumper 0603
4519	4822 051 30008	0R Jumper 0603
4520	4822 051 30008	0R Jumper 0603
4521	4822 051 30008	0R Jumper 0603
4522	4822 051 30008	0R Jumper 0603
4523	4822 051 30008	0R Jumper 0603
4524	4822 051 30008	0R Jumper 0603
4525	4822 051 30008	0R Jumper 0603
4527	4822 051 30008	0R Jumper 0603
4528	4822 051 30008	0R Jumper 0603
4529	4822 051 30008	0R Jumper 0603
4530	4822 051 30008	0R Jumper 0603
4531	4822 051 30008	0R Jumper 0603
4532	4822 051 30008	0R Jumper 0603
4533	4822 051 30008	0R Jumper 0603
4534	4822 051 30008	0R Jumper 0603
4535	4822 051 30008	0R Jumper 0603
4537	4822 051 30008	0R Jumper 0603
4538	4822 051 30008	0R Jumper 0603
4539	4822 051 30008	0R Jumper 0603
4540	4822 051 30008	0R Jumper 0603
4541	4822 051 30008	0R Jumper 0603
4542	4822 051 30008	0R Jumper 0603
4543	4822 051 30008	0R Jumper 0603
4544	4822 051 30008	0R Jumper 0603
4545	4822 051 30008	0R Jumper 0603
4546	4822 051 30008	0R Jumper 0603
4548	4822 051 30008	0R Jumper 0603
4549	4822 051 30008	0R Jumper 0603
4550	4822 051 30008	0R Jumper 0603
4551	4822 051 30008	0R Jumper 0603
4552	4822 051 30008	0R Jumper 0603
4553	4822 051 30008	0R Jumper 0603
4554	4822 051 30008	0R Jumper 0603
4555	4822 051 30008	0R Jumper 0603
4556	4822 051 30008	0R Jumper 0603
4557	4822 051 30008	0R Jumper 0603
4558	4822 051 30008	0R Jumper 0603
4559	4822 051 30008	0R Jumper 0603
4560	4822 051 30008	0R Jumper 0603
4561	4822 051 30008	0R Jumper 0603
4562	4822 051 30008	0R Jumper 0603
4563	4822 051 30008	0R Jumper 0603
4564	4822 051 30008	0R Jumper 0603
4565	4822 051 30008	0R Jumper 0603
4566	4822 051 30008	0R Jumper 0603
4570	4822 051 30008	0R Jumper 0603
4571	4822 051 30008	0R Jumper 0603
4572	4822 051 30008	0R Jumper 0603
4573	4822 051 30008	0R Jumper 0603
4574	4822 051 30008	0R Jumper 0603
4575	4822 051 30008	0R Jumper 0603
4579	4822 051 30008	0R Jumper 0603
4585	4822 051 30008	0R Jumper 0603
4593	4822 051 30008	0R Jumper 0603
4598	4822 051 30008	0R Jumper 0603
4653	4822 051 30008	0R Jumper 0603

COILS & FILTERS

5201	2422 536 00548	Coil 100uH 15%
5232	4822 157 10586	Coil 2,2uH 10%
5401	4822 157 10586	Coil 2,2uH 10%
5402	4822 157 70601	Coil 100uH 10%
5407	4822 157 10586	Coil 2,2uH 10%

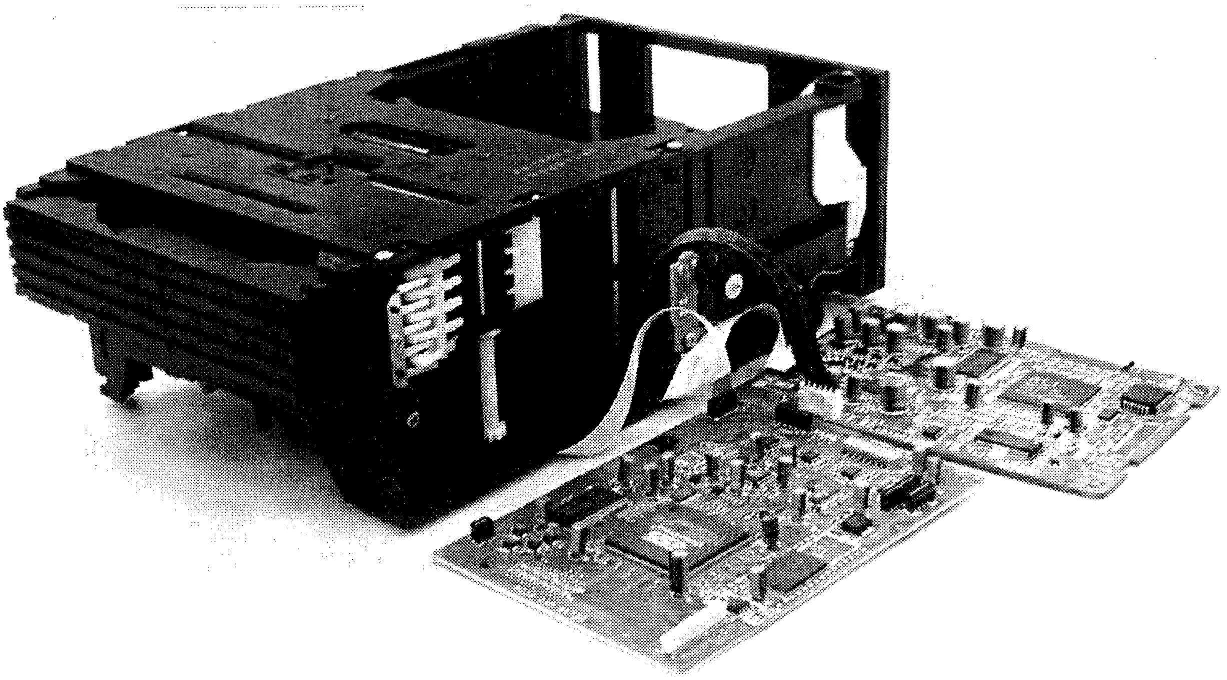
DIODES

6101	9337 12920673	BZX79-C11
6123	9340 548 61115	BZX384-C12
6200	4822 130 11397	BAS316
6201	4822 130 11397	BAS316
6202	4822 130 10871	SBYV27-200
6204	4822 130 31878	1N4003G
6205	9322 128 70685	SS14
6223	4822 130 31878	1N4003G
6224	4822 130 34278	BZX79-B6V8
6225	4822 130 31878	1N4003G
6226	4822 130 34142	BZX79-B33
6227	4822 130 11397	BAS316
6228	4822 130 11397	BAS316

TRANSISTORS & INTEGRATED CIRCUITS

7100	5322 130 60159	BC847B	
7101	4822 130 60373	BC857B	
7130	9322 150 74668	TDA7468D	
7131	4822 130 40959	BC547B	
7132	4822 130 60373	BC857B	
7133	4822 130 42804	BC817-25	
7150	5322 130 60159	BC847B	
7200	4822 130 42804	BC817-25	
7204	4822 130 40995	BD438	only for Prod start up
	9322 196 61687	BD242	running chang over
7205	4822 130 41246	BC327-25	
7206	4822 130 40995	BD438	
7207	3198 010 42310	BC847BW	
7208	4822 130 40995	BD438	
7209	3198 010 42310	BC847BW	
7210	9322 188 75682	LM2576T-3.3	
7211	3198 010 42310	BC847BW	
7230	4822 209 31378	NJM4556MB	
7231	4822 130 60373	BC857B	
7232	5322 130 60159	BC847B	
7233	5322 130 60159	BC847B	
7250	4822 130 42804	BC817-25	
7252	4822 130 60373	BC857B	
7253	5322 130 60159	BC847B	
7301	5322 130 60159	BC847B	
7302	4822 130 60373	BC857B	
7304	9322 150 74668	TDA7468D	
7330	9322 150 74668	TDA7468D	
7352	9337 148 20653	74HC4051D	
7402	4822 209 17345	M62320FP	
7405	5322 130 60159	BC847B	
7406	5322 130 60159	BC847B	
7421	5322 130 60159	BC847B	
7422	5322 209 11102	HEF4052BT	
7423	5322 130 60159	BC847B	
7451	4822 130 42804	BC817-25	
7452	4822 130 42804	BC817-25	

Note: Only the parts mentioned in this list are normal service spare parts.



5DTC MODULE

(DVD Version)

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Control Board
Circuit diagram 10-4
Component Layout 10-4

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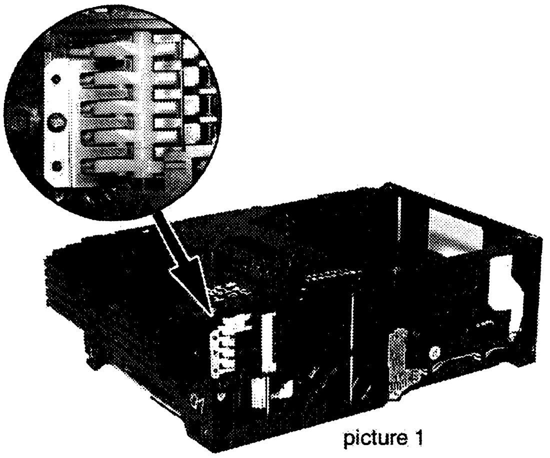
Electrical parts list 10-7

For Mono-FE (Front End) and Mono-BE (Back End) PCB assemblies information see chapters 11 and 12 in this service documentation.

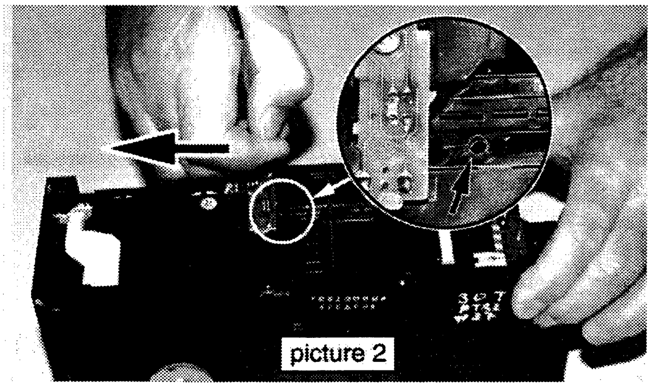
Emergency opening of the trays

The trays of the 5DTC are mechanically
ocked.



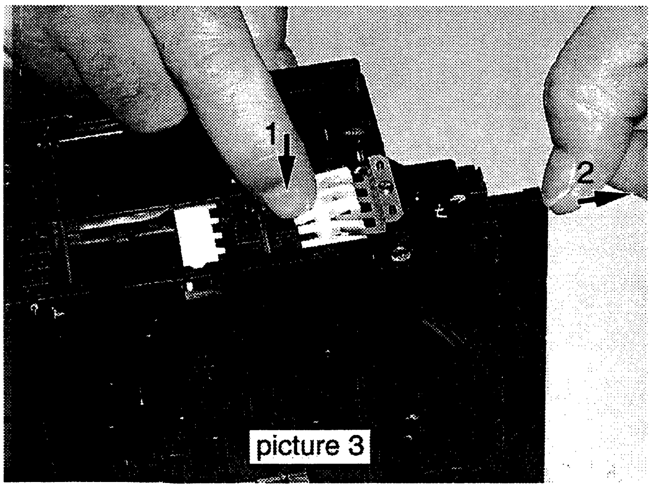
picture 1

To open tray 1, 2 and 3 move lever (pos 29) backwards (e.g. with a screwdriver - see picture 2) to its endposition.



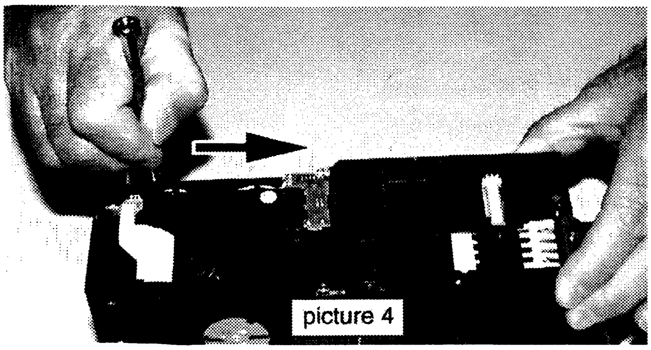
picture 2

Release the locking mechanism and pull out the tray (see picture 3).



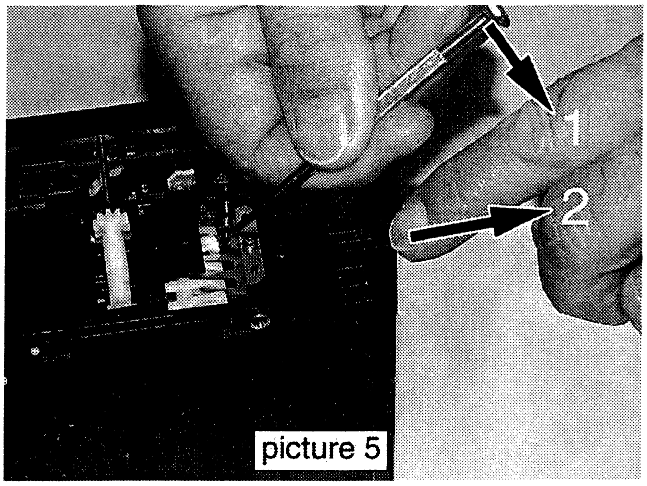
picture 3

To open tray 4 and 5 move lever (pos 29) forward to its endposition (see picture 4).



picture 4

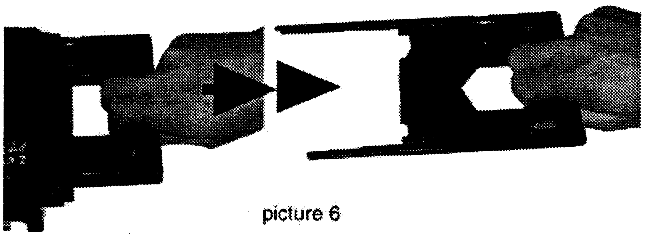
Release snap as shown in picture 5 and pull tray out.



picture 5

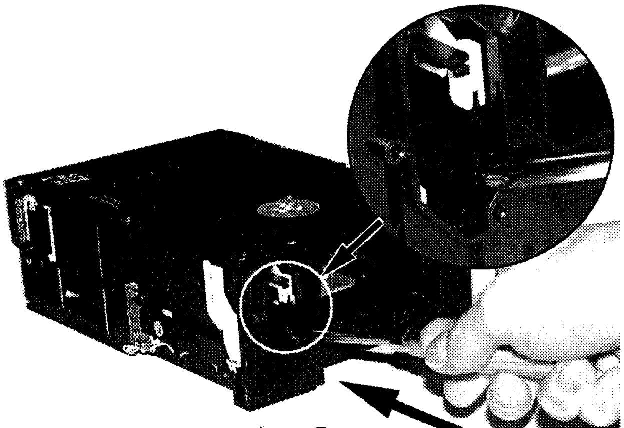
To remove a CD from Play Position perform following steps:

1. Open tray 1 as described before.
2. Tear the tray out with speed (see picture 6). The tray can be inserted aftewards without any alignment.



picture 6

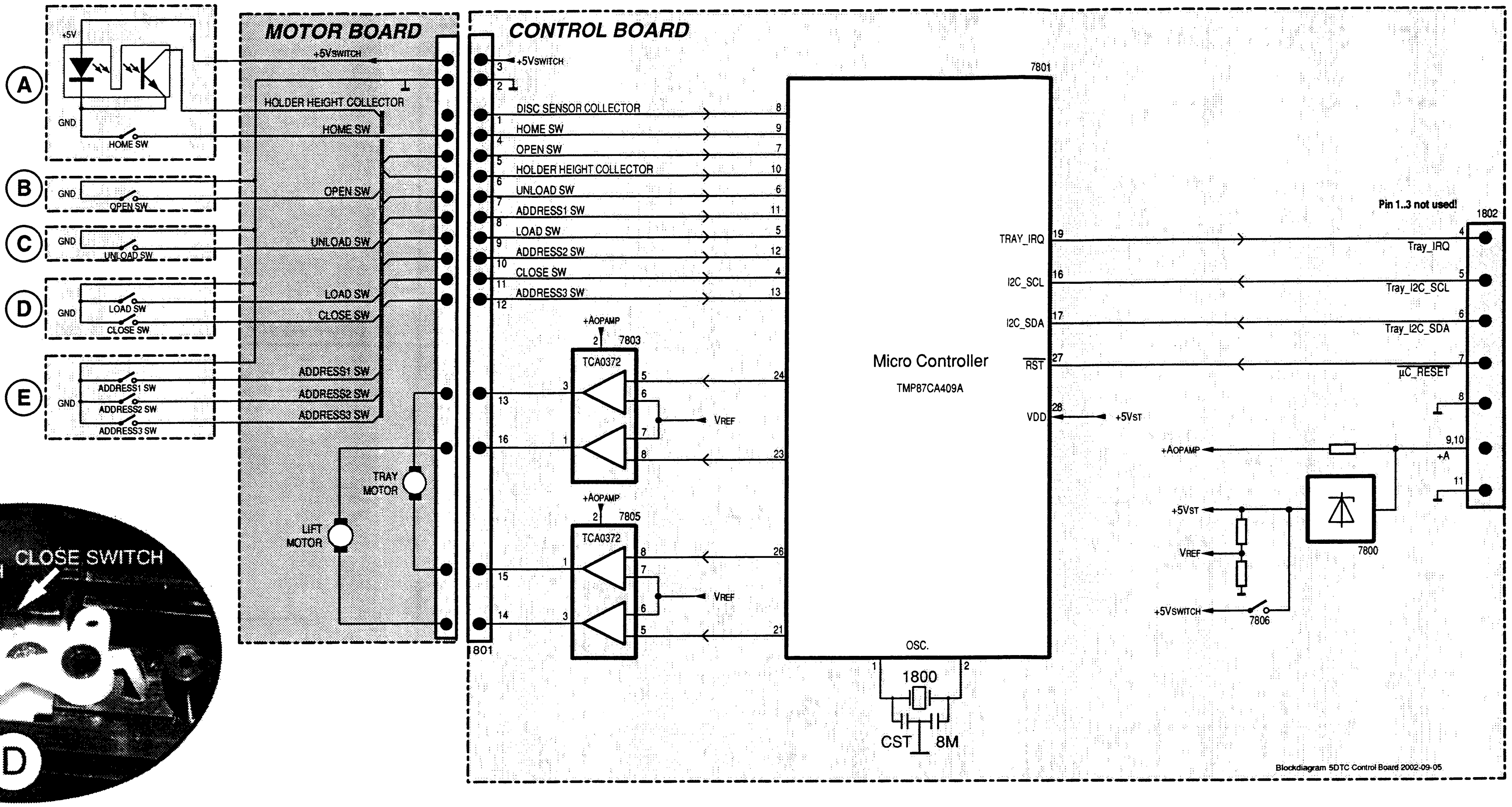
3. Move lever (pos 29) forward to its endposition (see picture 4).
4. Push lever (pos 31) forward (see picture 7).



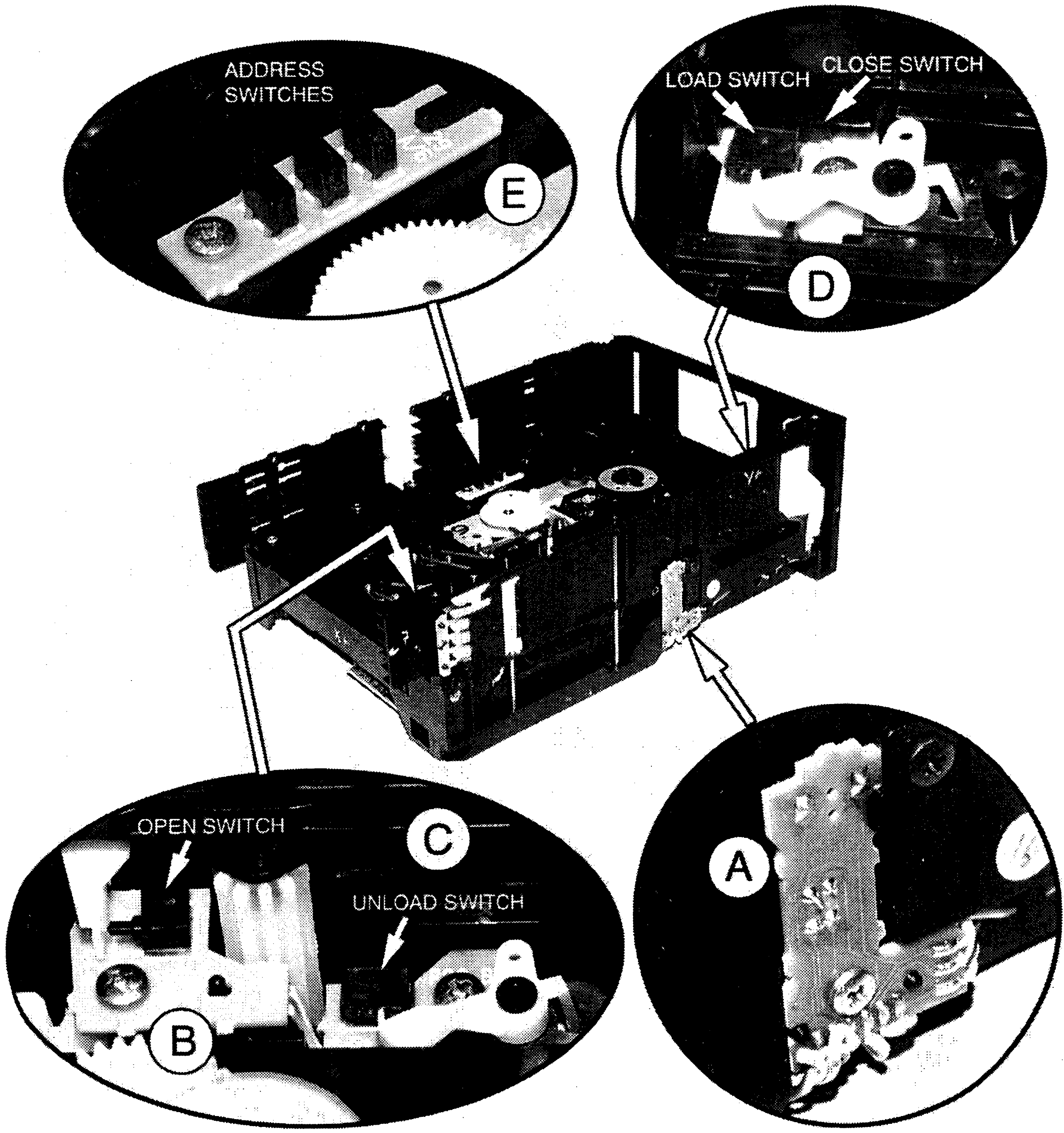
picture 7

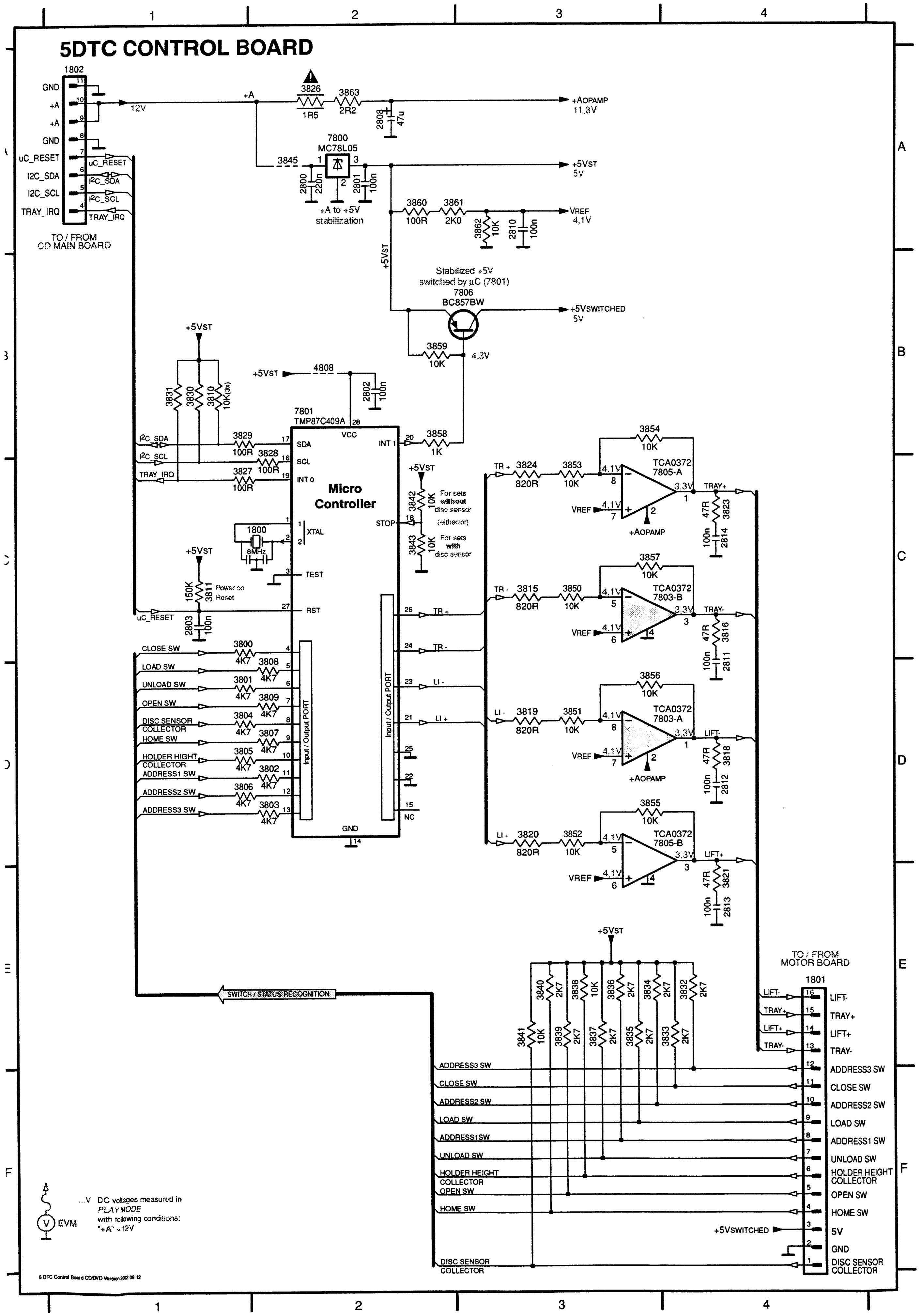
5. Remove CD.

Blockdiagram


MOTOR BOARD
CONTROL BOARD
A
B
C
D
E
+5V
GND
HOME SW
OPEN SW
UNLOAD SW
LOAD SW
CLOSE SW
ADDRESS1 SW
ADDRESS2 SW
ADDRESS3 SW
+5VSWITCH
HOLDER HEIGHT COLLECTOR
TRAY MOTOR
LIFT MOTOR
801
DISC SENSOR COLLECTOR
7801
+AOPAMP
7803
TCA0372
7805
VREF
Micro Controller
TMP87CA409A
TRAY_IRQ
I2C_SCL
I2C_SDA
RST
VDD
+5VST
OSC.
1800
CST
8M
Pin 1..3 not used!
1802
Tray_IRQ
Tray_I2C_SCL
Tray_I2C_SDA
µC_RESET
+A
7800
7806
Blockdiagram 5DTC Control Board 2002-09-05

Location of switches


ADDRESS SWITCHES
E
LOAD SWITCH
CLOSE SWITCH
D
OPEN SWITCH
C
UNLOAD SWITCH
B
A

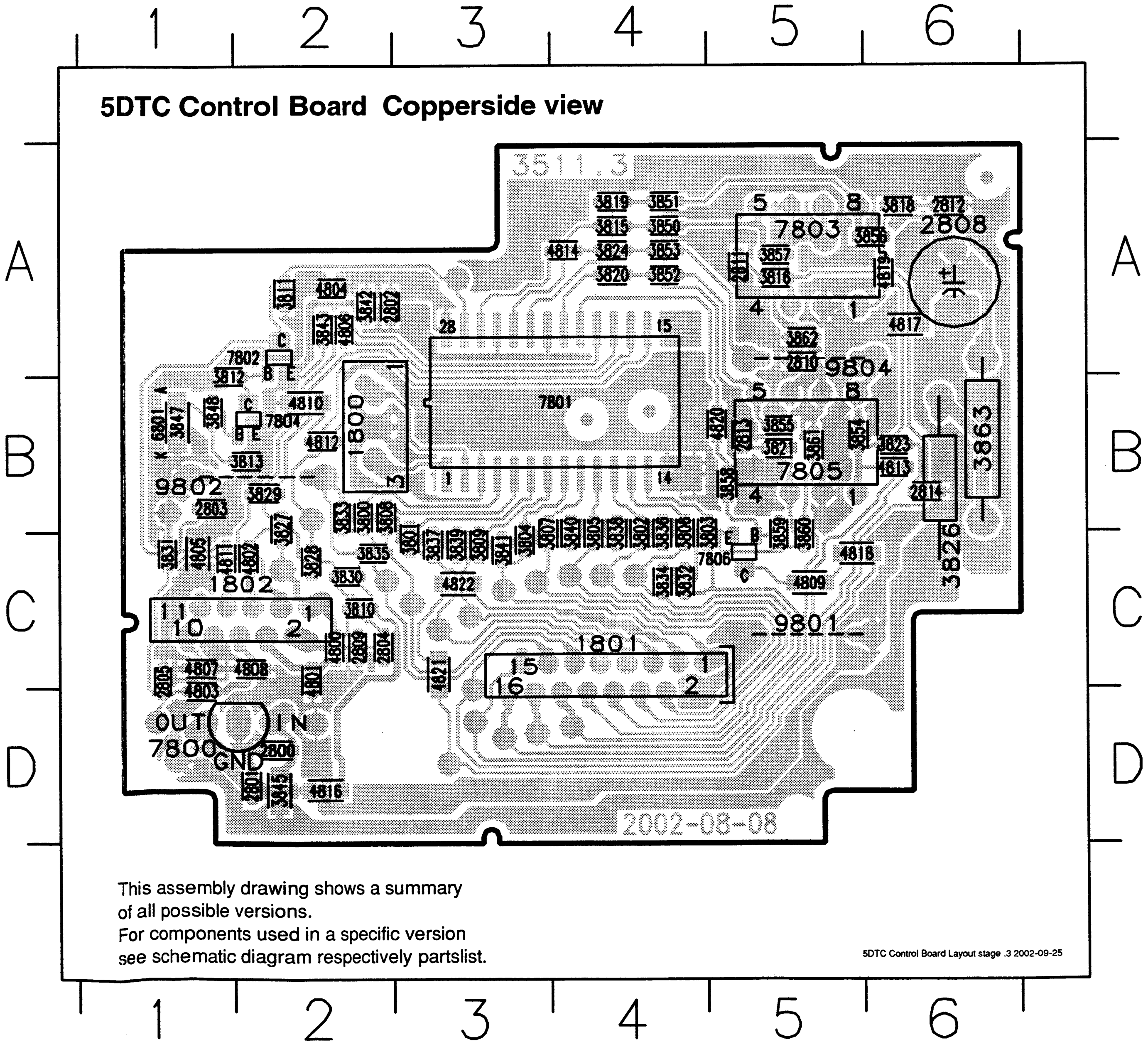

5DTC CONTROL BOARD
1802
GND
+A
+A
GND
uC_RESET
I2C_SDA
I2C_SCL
TRAY_IRQ
TO / FROM
CD MAIN BOARD
12V
3826
1R5
3863
2R2
2808
47u
+AOPAMP
11,8V
7800
MC78L05
3845
2800
220n
2801
100n
+A to +5V
stabilization
+5VST
5V
3860
100R
3861
2K0
3862
10K
2810
100n
VREF
4,1V
Stabilized +5V
switched by µC (7801)
7806
BC857BW
+5VSWITCHED
5V
3859
10K
4,3V
4808
2802
100n
3831
3830
3810
10K(3x)
7801
TMP87C409A
Micro
Controller
VCC
SDA
SCL
INT 0
INT 1
XTAL
TEST
RST
STOP
GND
NC
1800
8MHz
3811
150K
Power on
Reset
2803
100n
3829
100R
3828
100R
3827
100R
3858
1K
3842
10K
For sets
without
disc sensor
(otherwise)
3843
10K
For sets
with
disc sensor
CLOSE SW
LOAD SW
UNLOAD SW
OPEN SW
DISC SENSOR
COLLECTOR
HOME SW
HOLDER HIGHT
COLLECTOR
ADDRESS1 SW
ADDRESS2 SW
ADDRESS3 SW
3800 4K7
3808 4K7
3801 4K7
3809 4K7
3804 4K7
3807 4K7
3805 4K7
3802 4K7
3806 4K7
3803 4K7
Input / Output PORT
TR+
TR-
LI-
LI+
3824 820R
3853 10K
3854 10K
TCA0372
7805-A
TRAY+
3823 47R
2814 100n
3815 820R
3850 10K
3857 10K
7803-B
TRAY-
3816 47R
2811 100n
3819 820R
3851 10K
3856 10K
7803-A
LIFT-
3818 47R
2812 100n
3820 820R
3852 10K
3855 10K
7805-B
LIFT+
3821 47R
2813 100n
4,1V
3,3V
+AOPAMP
SWITCH / STATUS RECOGNITION
+5VST
3840 2K7
3838 10K
3836 2K7
3834 2K7
3832 2K7
3841 10K
3839 2K7
3837 2K7
3835 2K7
3833 2K7
TO / FROM
MOTOR BOARD
1801
LIFT-
TRAY+
LIFT+
TRAY-
ADDRESS3 SW
CLOSE SW
ADDRESS2 SW
LOAD SW
ADDRESS1 SW
UNLOAD SW
HOLDER HEIGHT
COLLECTOR
OPEN SW
HOME SW
5V
GND
DISC SENSOR
COLLECTOR
...V DC voltages measured in
PLAY MODE
with following conditions:
"+A" = 12V
EVM
5 DTC Control Board CD/DVD Version 2002 09 12
1
2
3
4
A
B
C
D
E
F

Mapping for Circuit Diagram

1800	C2	2810	A3	3804	D1	3811	C1	3824	C3	3833	E4	3841	E3	3854	B3	3862	A3	7805-B	D3
1801	E4	2811	D4	3805	D1	3815	C3	3826	A2	3834	E3	3842	C2	3855	D3	3863	A2	7806	B3
1802	A1	2812	D4	3806	D1	3816	C4	3827	C1	3835	E3	3843	C2	3856	D3	4808	B2		
2800	A2	2813	E4	3807	D2	3818	D4	3828	C2	3836	E3	3845	A2	3857	C3	7800	A2		
2801	A2	2814	C4	3808	D1	3819	D3	3829	B1	3837	E3	3850	C3	3858	B2	7801	B2		
2802	B2	3800	C1	3808	D2	3820	D3	3830	B1	3838	E3	3851	D3	3859	B3	7803-A	D3		
2803	C1	3802	D2	3809	D2	3821	E4	3831	B1	3839	E3	3852	D3	3860	A2	7803-B	C3		
2808	A2	3803	D2	3810	B1	3823	C4	3832	E4	3840	E3	3853	C3	3861	A2	7805-A	C3		

Mapping for Component Layout

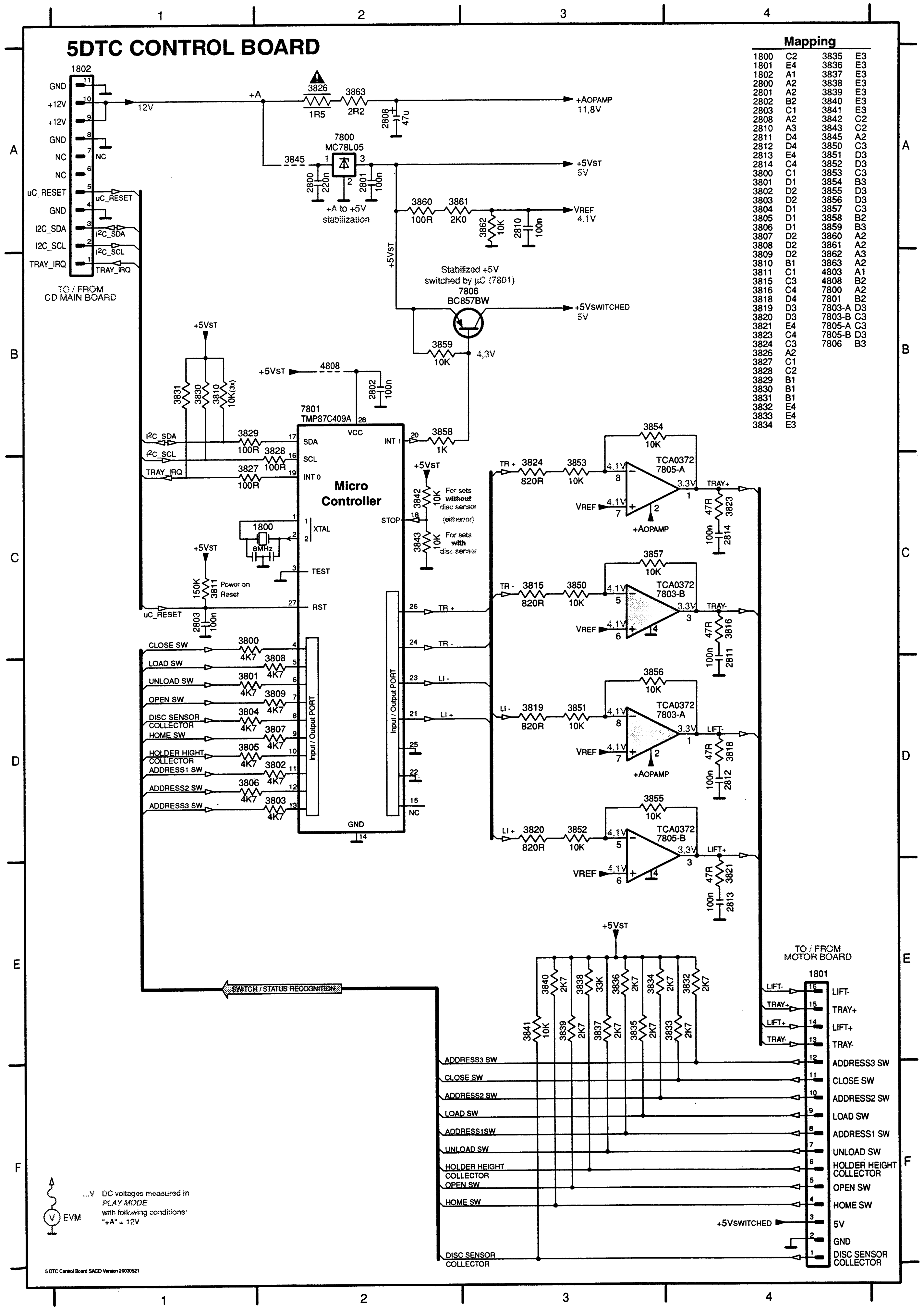
1800	B2	2810	A5	3806	C4	3819	A4	3832	C4	3843	A2	3857	A5	4804	A2	4816	D2	7803	A5
1801	C4	2811	A5	3807	C3	3820	A4	3833	B2	3845	D2	3858	B5	4805	C1	4817	A6	7804	B2
1802	C2	2812	A6	3808	B2	3821	B5	3834	C4	3847	B1	3859	C5	4806	A2	4818	C5	7806	C5
2800	D2	2813	B5	3809	C3	3823	B6	3835	C2	3848	B1	3860	C5	4807	C1	4819	A6	9801	C5
2801	D2	2814	B6	3810	C2	3824	A4	3836	C4	3850	A4	3861	B5	4808	C2	4820	B5	9802	B2
2802	A2	3800	B2	3811	A2	3826	B6	3837	C3	3851	A4	3862	A5	4809	C5	4821	C3	9804	A5
2803	B1	3801	C3	3812	A1	3827	B2	3838	C4	3852	A4	3863	B6	4810	B2	4822	C3		
2804	C2	3802	C4	3813	B2	3828	C2	3839	C3	3853	A4	4800	C2	4811	C1	6801	B1		
2805	C1	3803	C4	3815	A4	3829	B2	3840	C4	3854	B5	4801	C2	4812	B2	7800	D2		
2808	A6	3804	C3	3816	A5	3830	C2	3841	C3	3855	B5	4802	C2	4813	B6	7801	B4		
2809	C2	3805	C4	3818	A6	3831	C1	3842	A2	3856	A6	4803	D1	4814	A4	7802	A2		


1
2
3
4
5
6
A
B
C
D
3511.3
7803
7801
7805
7802
7804
7806
7800
OUT
IN
GND
1800
1801
1802
9801
9802
9804
2808
3863
3826
2002-08-08

5DTC Control Board Copperside view

This assembly drawing shows a summary of all possible versions. For components used in a specific version see schematic diagram respectively partslist.

5DTC Control Board Layout stage .3 2002-09-25


5DTC CONTROL BOARD
1802
GND
+12V
+12V
GND
NC
NC
uC_RESET
GND
I2C_SDA
I2C_SCL
TRAY_IRQ
TO / FROM
CD MAIN BOARD
12V
+A
3826 1R5
3863 2R2
2808 47u
+AOPAMP 11,8V
7800
MC78L05
3845
2800 220n
2801 100n
+A to +5V stabilization
+5VST 5V
3860 100R
3861 2K0
3862 10K
2810 100n
VREF 4,1V
Stabilized +5V switched by µC (7801)
7806
BC857BW
+5VSWITCHED 5V
3859 10K
4,3V
4808
2802 100n
3831
3830
3810 10K(3x)
7801
TMP87C409A
Micro Controller
SDA
SCL
INT 0
XTAL
TEST
RST
VCC
INT 1
STOP
GND
NC
Input / Output PORT
3829 100R
3828 100R
3827 100R
3858 1K
1800 8MHz
3811 150K Power on Reset
2803 100n
3842 10K For sets without disc sensor
(either/or)
3843 10K For sets with disc sensor
CLOSE SW
LOAD SW
UNLOAD SW
OPEN SW
DISC SENSOR COLLECTOR
HOME SW
HOLDER HIGHT COLLECTOR
ADDRESS1 SW
ADDRESS2 SW
ADDRESS3 SW
3800 4K7
3808 4K7
3801 4K7
3809 4K7
3804 4K7
3807 4K7
3805 4K7
3802 4K7
3806 4K7
3803 4K7
TR +
TR -
LI -
LI +
3824 820R
3815 820R
3819 820R
3820 820R
3853 10K
3850 10K
3851 10K
3852 10K
3854 10K
3857 10K
3856 10K
3855 10K
TCA0372
7805-A
7803-B
7803-A
7805-B
VREF
4,1V
3,3V
+AOPAMP
TRAY+
TRAY-
LIFT-
LIFT+
3823 47R
3816 47R
3818 47R
3821 47R
2814 100n
2811 100n
2812 100n
2813 100n
+5VST
3840 2K7
3838 33K
3836 2K7
3834 2K7
3832 2K7
3841 10K
3839 2K7
3837 2K7
3835 2K7
3833 2K7
SWITCH / STATUS RECOGNITION
TO / FROM
MOTOR BOARD
1801
LIFT-
TRAY+
LIFT+
TRAY-
ADDRESS3 SW
CLOSE SW
ADDRESS2 SW
LOAD SW
ADDRESS1 SW
UNLOAD SW
HOLDER HEIGHT COLLECTOR
OPEN SW
HOME SW
+5VSWITCHED
5V
GND
DISC SENSOR COLLECTOR
EVM
...V DC voltages measured in *PLAY MODE* with following conditions: "+A" = 12V
5 DTC Control Board SACD Version 20030521

Mapping

1800	C2	3835	E3
1801	E4	3836	E3
1802	A1	3837	E3
2800	A2	3838	E3
2801	A2	3839	E3
2802	B2	3840	E3
2803	C1	3841	E3
2808	A2	3842	C2
2810	A3	3843	C2
2811	D4	3845	A2
2812	D4	3850	C3
2813	E4	3851	D3
2814	C4	3852	D3
3800	C1	3853	C3
3801	D1	3854	B3
3802	D2	3855	D3
3803	D2	3856	D3
3804	D1	3857	C3
3805	D1	3858	B2
3806	D1	3859	B3
3807	D2	3860	A2
3808	D2	3861	A2
3809	D2	3862	A3
3810	B1	3863	A2
3811	C1	4803	A1
3815	C3	4808	B2
3816	C4	7800	A2
3818	D4	7801	B2
3819	D3	7803-A	D3
3820	D3	7803-B	C3
3821	E4	7805-A	C3
3823	C4	7805-B	D3
3824	C3	7806	B3
3826	A2		
3827	C1		
3828	C2		
3829	B1		
3830	B1		
3831	B1		
3832	E4		
3833	E4		
3834	E3		

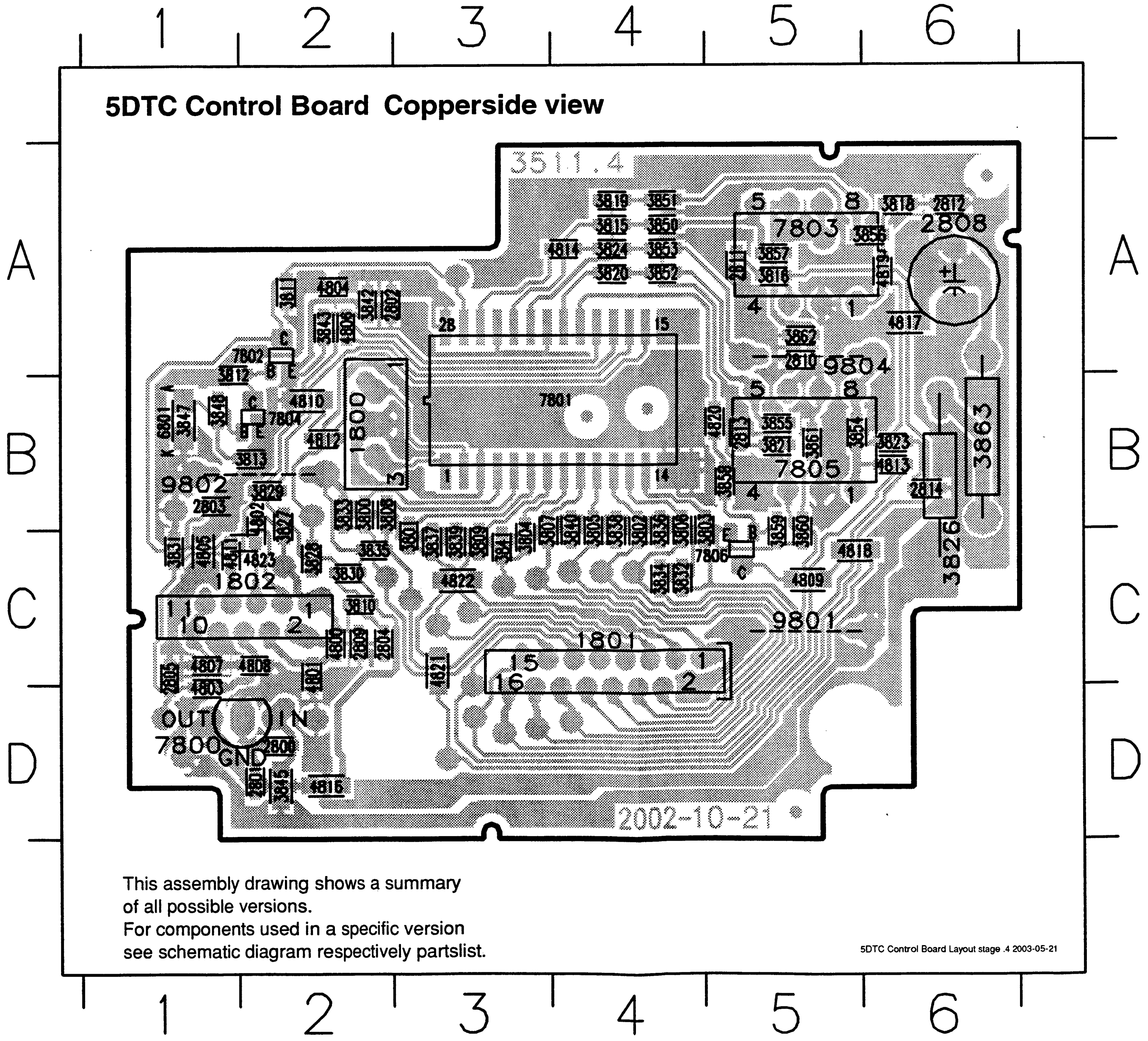
MAPPING FOR CIRCUIT DIAGRAM

1800	C2	2810	A3	3804	D1	3811	C1	3824	C3	3833	E4	3841	E3	3854	B3	3862	A3	7805-B	D3
1801	E4	2811	D4	3805	D1	3815	C3	3826	A2	3834	E3	3842	C2	3855	D3	3863	A2	7806	B3
1802	A1	2812	D4	3806	D1	3816	C4	3827	C1	3835	E3	3843	C2	3856	D3	4808	B2		
2800	A2	2813	E4	3807	D2	3818	D4	3828	C2	3836	E3	3845	A2	3857	C3	7800	A2		
2801	A2	2814	C4	3808	D1	3819	D3	3829	B1	3837	E3	3850	C3	3858	B2	7801	B2		
2802	B2	3800	C1	3808	D2	3820	D3	3830	B1	3838	E3	3851	D3	3859	B3	7803-A	D3		
2803	C1	3802	D2	3809	D2	3821	E4	3831	B1	3839	E3	3852	D3	3860	A2	7803-B	C3		
2808	A2	3803	D2	3810	B1	3823	C4	3832	E4	3840	E3	3853	C3	3861	A2	7805-A	C3		

MAPPING FOR COMPONENT LAYOUT

1800	B2	2810	A5	3806	C4	3819	A4	3832	C4	3843	A2	3857	A5	4804	A2	4816	D2	7802	A2
1801	C4	2811	A5	3807	C3	3820	A4	3833	B2	3845	D2	3858	B5	4805	C1	4817	A6	7803	A5
1802	C2	2812	A6	3808	B2	3821	B5	3834	C4	3847	B1	3859	C5	4806	A2	4818	C5	7804	B2
2800	D2	2813	B5	3809	C3	3823	B6	3835	C2	3848	B1	3860	C5	4807	C1	4819	A6	7806	C5
2801	D2	2814	B6	3810	C2	3824	A4	3836	C4	3850	A4	3861	B5	4808	C2	4820	B5	9801	C5
2802	A2	3800	B2	3811	A2	3826	B6	3837	C3	3851	A4	3862	A5	4809	C5	4821	C3	9802	B2
2803	B1	3801	C3	3812	A1	3827	B2	3838	C4	3852	A4	3863	B6	4810	B2	4822	C3	9804	A5
2804	C2	3802	C4	3813	B2	3828	C2	3839	C3	3853	A4	4800	C2	4811	C1	4823	B1		
2805	C1	3803	C4	3815	A4	3829	B2	3840	C4	3854	B5	4801	C2	4812	B2	6801	B1		
2808	A6	3804	C3	3816	A5	3830	C2	3841	C3	3855	B5	4802	C2	4813	B6	7800	D2		
2809	C2	3805	C4	3818	A6	3831	C1	3842	A2	3856	A6	4803	D1	4814	A4	7801	B4		

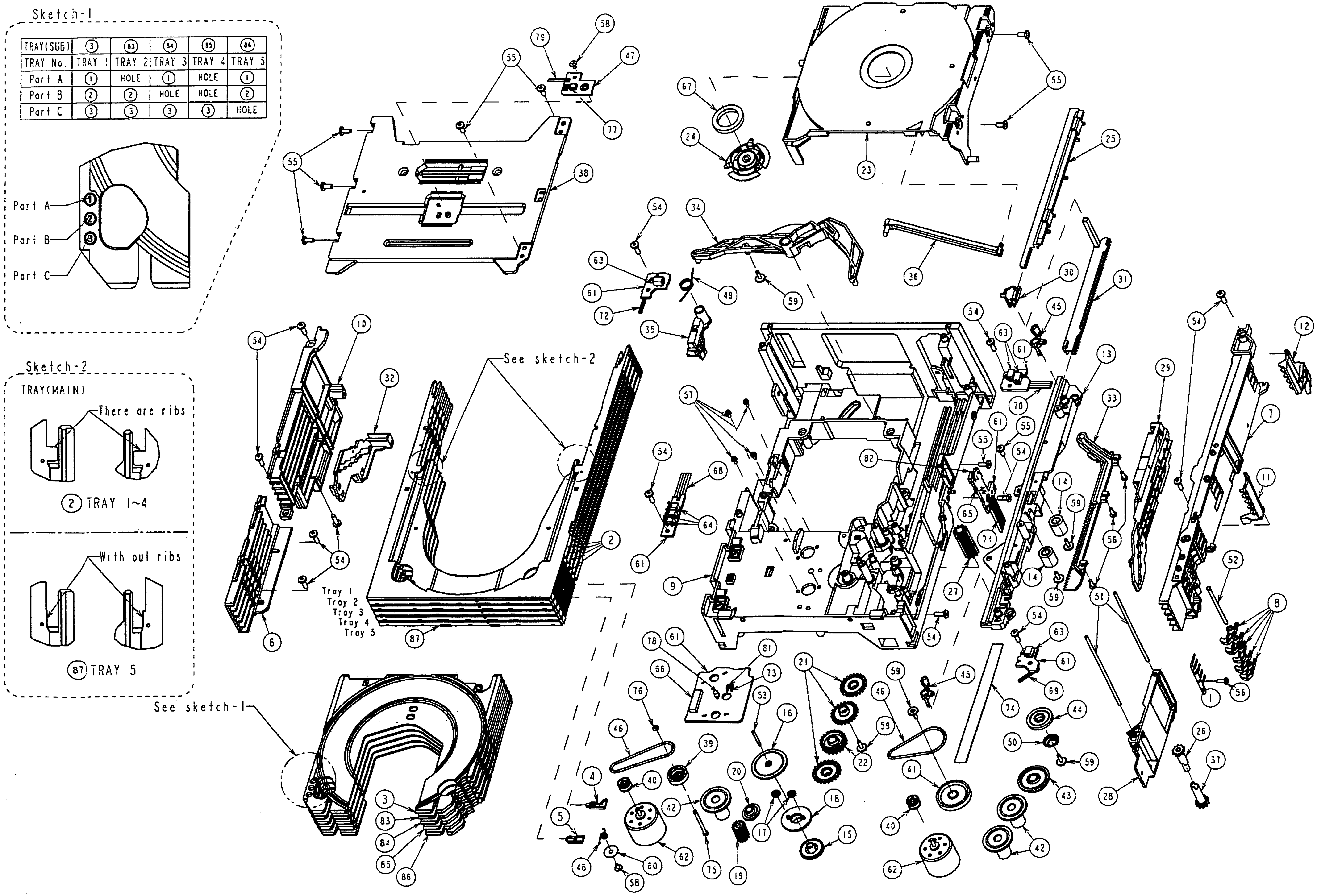
5DTC Control Board Copperside view


3511.4
2002-10-21
7801
7803
7805
1800
1801
1802
2808
3863
3826
9801
9802
9804
7800
OUT
IN
GND

This assembly drawing shows a summary
of all possible versions.
For components used in a specific version
see schematic diagram respectively partslist.

5DTC Control Board Layout stage .4 2003-05-21

xploded view 5DTC mechanic - for orientation only

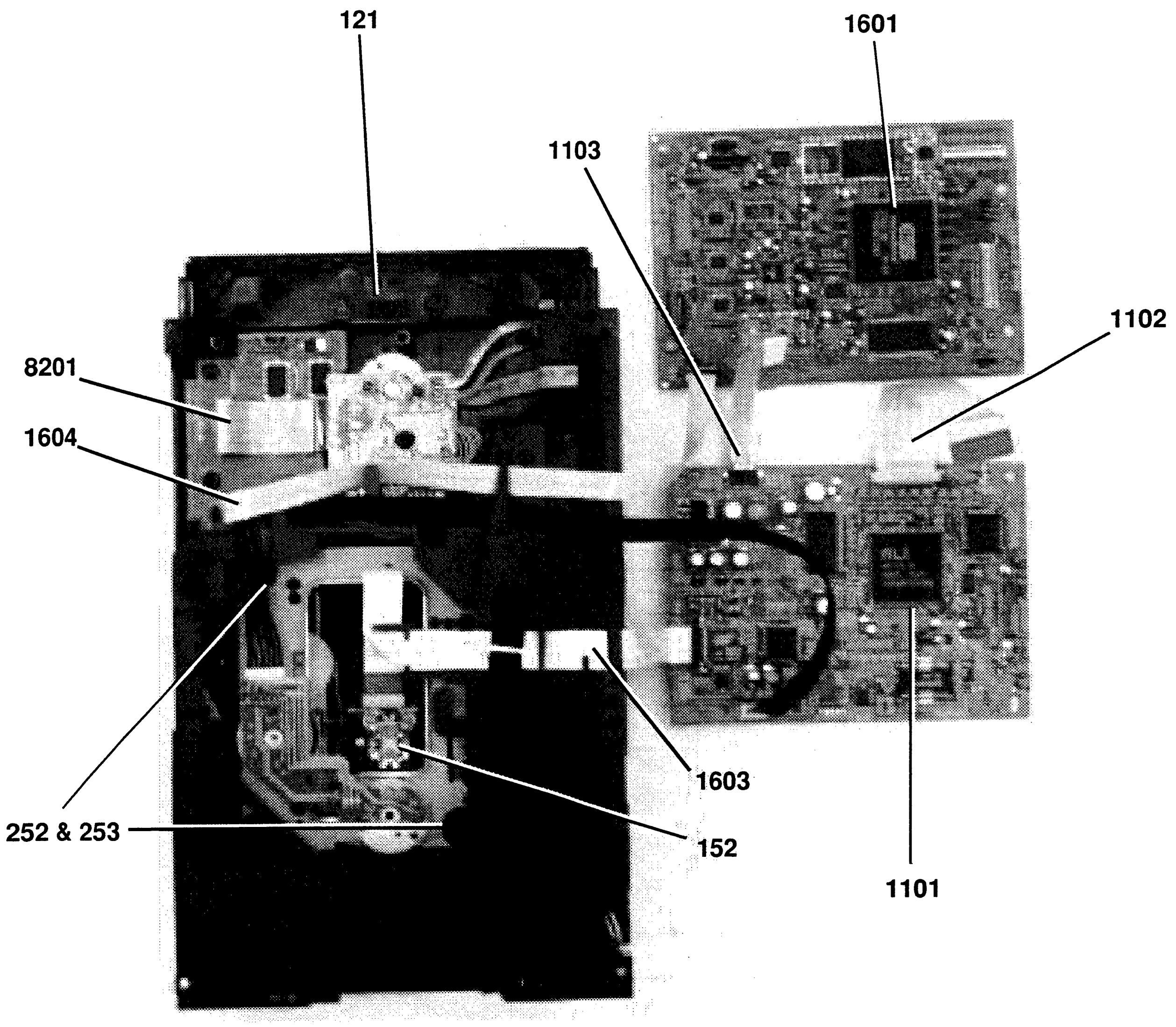


Sketch-1

TRAY(SUB)	③	(83)	(84)	(85)	(86)
TRAY No.	TRAY 1	TRAY 2	TRAY 3	TRAY 4	TRAY 5
Part A	①	HOLE	①	HOLE	①
Part B	②	②	HOLE	HOLE	②
Part C	③	③	③	③	HOLE

Part A
Part B
Part C
Sketch-2
TRAY(MAIN)
There are ribs
② TRAY 1~4
With out ribs
(87) TRAY 5
See sketch-1
See sketch-2
Tray 1
Tray 2
Tray 3
Tray 4
Tray 5
(79)
(58)
(55)
(47)
(77)
(38)
(67)
(24)
(23)
(25)
(10)
(54)
(32)
(6)
(87)
(2)
(3)
(83)
(84)
(85)
(86)
(34)
(63)
(61)
(72)
(49)
(59)
(35)
(36)
(30)
(31)
(45)
(12)
(13)
(29)
(7)
(70)
(57)
(68)
(64)
(9)
(82)
(65)
(71)
(27)
(33)
(14)
(56)
(11)
(52)
(8)
(51)
(1)
(69)
(74)
(44)
(50)
(43)
(28)
(26)
(37)
(78)
(81)
(73)
(21)
(53)
(16)
(46)
(22)
(39)
(76)
(40)
(4)
(5)
(42)
(62)
(60)
(48)
(20)
(17)
(18)
(15)
(75)
(19)
(41)

DVD MODULE COMPONENTS



DVD MODULE PARTS LIST

121	3103 308 54710	5DTC Mechanism w/o Electronics
152	3139 119 00311	DVD Mechanism Sanyo-DV33SS
252	3139 113 27501	Damper-Rubber (50 Degrees)
253	3139 113 27501	Damper-Rubber (50 Degrees)
1101	3139 118 56941	Mono FE (Front End) PCB Assembly CD222
1102	3139 111 02151	FFC Cable 40P 10cm BD
1103	3139 111 02141	FFC Cable 7P 10cm BD
1601	3139 118 56481	Mono BE (Back End) PCB Assembly CD222
1603	3139 111 01671	FFC Cable 24P 21cm AD
1604	3139 110 35620	FFC Cable 8P 25cm BD
8021	3103 308 93110	FFC Cable 16P 6cm AD

Note: Only the parts mentioned in this list are normal service spare parts.

Notes:

For Mono FE and Mono BE pc board assembly electrical parts please refer to Chapter 11 and 12.

ELECTRICAL PARTS LIST - CONTROL BOARD

MISCELLANEOUS

1800	4822 242 72066	Ceram Filter 8MHz
1801	2422 025 17065	FFC Connector 16Pin Vert.
1802	2422 025 17788	FFC Connector 8Pin Vert.

CAPACITORS

2800	4822 126 13879	220nF +80/-20% 16V
2801	2238 586 59812	100nF 10% 50V
2802	2238 586 59812	100nF 10% 50V
2803	2238 586 59812	100nF 10% 50V
2808	4822 124 40433	47uF 20% 25V
2810	2238 586 59812	100nF 10% 50V
2811	2238 586 59812	100nF 10% 50V
2812	2238 586 59812	100nF 10% 50V
2813	2238 586 59812	100nF 10% 50V
2814	2238 586 59812	100nF 10% 50V

RESISTORS

3800	4822 051 30472	4k7 5% 0,062W
3801	4822 051 30472	4k7 5% 0,062W
3802	4822 051 30472	4k7 5% 0,062W
3803	4822 051 30472	4k7 5% 0,062W
3804	4822 051 30472	4k7 5% 0,062W
3805	4822 051 30472	4k7 5% 0,062W
3806	4822 051 30472	4k7 5% 0,062W
3807	4822 051 30472	4k7 5% 0,062W
3808	4822 051 30472	4k7 5% 0,062W
3809	4822 051 30472	4k7 5% 0,062W
3810	4822 051 30103	10k 5% 0,062W
3811	4822 051 30154	150k 5% 0,062W
3815	5322 117 13057	820R 1% 0,063W
3816	4822 051 30479	47R 5% 0,062W
3818	4822 051 30479	47R 5% 0,062W
3819	5322 117 13057	820R 1% 0,063W
3820	5322 117 13057	820R 1% 0,063W
3821	4822 051 30479	47R 5% 0,062W
3823	4822 051 30479	47R 5% 0,062W
3824	5322 117 13057	820R 1% 0,063W
3826	4822 117 12148	1R5 5% 0,33W
3827	4822 051 30101	100R 5% 0,062W
3828	4822 051 30101	100R 5% 0,062W
3829	4822 051 30101	100R 5% 0,062W
3830	4822 051 30103	10k 5% 0,062W
3831	4822 051 30103	10k 5% 0,062W
3832	4822 051 30272	2k7 5% 0,062W
3833	4822 051 30272	2k7 5% 0,062W
3834	4822 051 30272	2k7 5% 0,062W
3835	4822 051 30272	2k7 5% 0,062W
3836	4822 051 30272	2k7 5% 0,062W
3837	4822 051 30272	2k7 5% 0,062W
3838	4822 051 30333	33k 5% 0,062W
3839	4822 051 30272	2k7 5% 0,062W
3840	4822 051 30272	2k7 5% 0,062W
3841	4822 051 30103	10k 5% 0,062W
3842	4822 051 30103	10k 5% 0,062W
3845	4822 051 20008	0R Jumper 0805
3850	4822 117 12706	10k 1% 0,063W
3851	4822 117 12706	10k 1% 0,063W
3852	4822 117 12706	10k 1% 0,063W
3853	4822 117 12706	10k 1% 0,063W
3854	4822 117 12706	10k 1% 0,063W
3855	4822 117 12706	10k 1% 0,063W
3856	4822 117 12706	10k 1% 0,063W
3857	4822 117 12706	10k 1% 0,063W
3858	4822 051 30102	1k 5% 0,062W
3859	4822 051 30103	10k 5% 0,062W
3860	5322 117 13017	100R 1% 0,063W
3861	2322 704 62002	2k 1% 0,063W
3862	4822 117 12706	10k 1% 0,063W
3863	4822 053 10228	2R2 5% 1W
4800	4822 051 30008	0R Jumper 0603
4802	4822 051 30008	0R Jumper 0603
4803	4822 051 30008	0R Jumper 0603
4804	4822 051 30008	0R Jumper 0603
4805	4822 051 20008	0R Jumper 0805
4806	4822 051 30008	0R Jumper 0603
4807	4822 051 30008	0R Jumper 0603
4808	4822 051 30008	0R Jumper 0603
4809	4822 051 20008	0R Jumper 0805
4810	4822 051 20008	0R Jumper 0805
4811	4822 051 30008	0R Jumper 0603
4812	4822 051 30008	0R Jumper 0603
4813	4822 051 30008	0R Jumper 0603
4814	4822 051 30008	0R Jumper 0603
4816	4822 051 20008	0R Jumper 0805
4817	4822 051 20008	0R Jumper 0805
4818	4822 051 20008	0R Jumper 0805
4819	4822 051 30008	0R Jumper 0603
4820	4822 051 30008	0R Jumper 0603
4821	4822 051 20008	0R Jumper 0805
4822	4822 051 20008	0R Jumper 0805

TRANSISTORS & INTEGRATED CIRCUITS

7800	4822 209 72042	MC78L05ACP, Stabilizer
7801	9322 150 41668	TMP87P809M Microcontroller
7803	4822 209 62059	TCA0372DP1, 2-Fold Op-Amp.
7805	4822 209 62059	TCA0372DP1, 2-Fold Op-Amp.
7806	3198 010 42320	BC857BW

Note: Only the parts mentioned in this list are normal service spare parts.

MONO-FE BOARD

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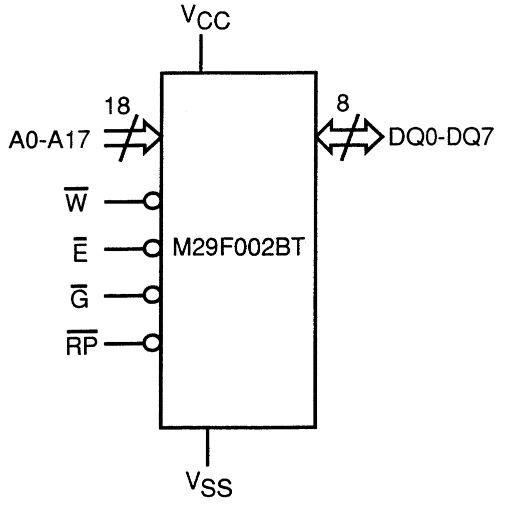
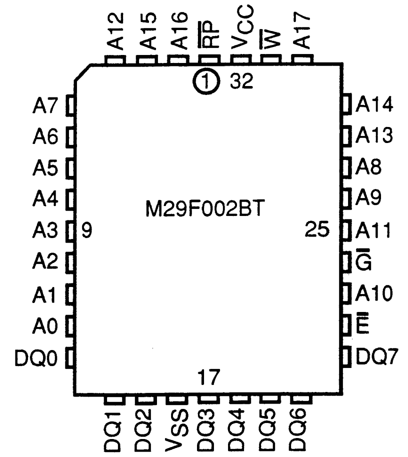
M29F002BT



V_{CC}
18
A0-A17
8
DQ0-DQ7
$\overline{W}$
$\overline{E}$
$\overline{G}$
$\overline{RP}$
M29F002BT
V_{SS}



A12
A15
A16
$\overline{RP}$
V_{CC}
$\overline{W}$
A17
① 32
A7
A6
A5
A4
A3
A2
A1
A0
DQ0
9
M29F002BT
25
A14
A13
A8
A9
A11
$\overline{G}$
A10
$\overline{E}$
DQ7
17
DQ1
DQ2
V_{SS}
DQ3
DQ4
DQ5
DQ6

Function Description

A0-A17	Address Inputs
DQ0-DQ7	Data Inputs/Outputs
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{RP}$	M29F002BT, M29F002BB: Reset/Block Temporary Unprotect M29F002BNT, M29F002BNB: Not Connected Internally
V_{CC}	Supply Voltage
V_{SS}	Ground

M5705 (Ali) Features

Data Separator

- Built-in data slicer and data PLL for data recovery from RF signal.
- Supports digital/analog slice level adjustment.
- Built-in auto calibration function.
- Built-in auto wire range control function.

DVD-DSP

- Built-in synchronous pattern/ID detection /protection/separation.
- Built-in EFM+ (8 to 16) demodulation circuit.
- Built-in high performance RSPC ECC circuit.
- Supports up to 6X DVD-ROM system with ECC correcting "on the fly".
- Built-in descrambler/EDC circuit.

CD-DSP

- Synchronous pattern detection, protection and interpolation.
- Built-in EFM demodulation circuit, subcode demodulation circuit.
- Dual C1 correction and quadrule C2 correction.
- Subcode Q data can output with audio data synchronously.

Digital Servo

- Built-in A/D and D/A converters for servo control signals processing.
- Built-in digital controller for focus, tracking servo control of CD/DVD systems.
- Built-in CLV/CAV auxiliary function for spindle servo control.
- Built-in "Seek Sensor" auxiliary circuit for seek control.
- Automatic adjustment of focus servo and tracking servo, for loop gain, offset and balance.
- Built-in RF gain automatic adjustment function.
- Built-in AFC circuit and APC circuit for CLV and AFC circuit for CAV spindle servo of CD/DVD systems.
- Built-in defect and shock protection function.

DRAM Interface

- Supports up to 16 Mb EDO DRAM and SDRAM.
- Separate buffer address pointers and automatic address calculation that save firmware effort.
- Read-ahead cache scheme for multimedia isochronous transfer.
- Protection logic preventing uncorrected sectors being released to the host.

Target Search

- Built-in target sector searching circuit for auto-searching the target sector.
- Automatic data buffering after the target sector has been located.

C3 ECC/EDC

- Programmable Reed-Solomon Product Code (RSPC) that allows different error correction schemes for CD-ROM.
- Built-in On-chip EDC function.
- Support up to 32X CD-ROM system with ECC correcting "on the fly".

Host Interface

- Supports ATA PIO mode 4 timing
- Supports Multiword DMA mode 2 timing
- Compliant with SFF-8020(ATAPI) 2.5, ATA 3(Overlapping feature), and SFF-8090 (ATAPI for DVD) standard
- High current drivers with slew rate control for direct connecting to the ATA bus and noise immunity.
- Automatic Read Control Circuit for host data transfer.
- Automatic wake up from power down on host reset or command write
- Automatic sequence for packet command receiving and Automatic updating of the host task file registers
- Supports ATAPI write command that can let user update firmware from PC.
- Built-in authentication circuit for copy protection.
- Multiplexed MPEG decoder interface (local bus).

Microcontroller Interface

- Embedded microcontroller compatible with Intel 8032 command set
- Supports Intel 8032 series MCUs
- Supports Intel 8032 series MCUs and Hitachi H8 series MCUs.
- Supports automatically download firmware function directly from ATAPI interface to flash memory
- Supports "on-system" upgrade flash memory function from CD-R discs or ATAPI interface
- High speed register (buffer RAM) access to meet the requirement of high performance system
- Supports Direct mapped access to the buffer RAM using ready bit handshaking

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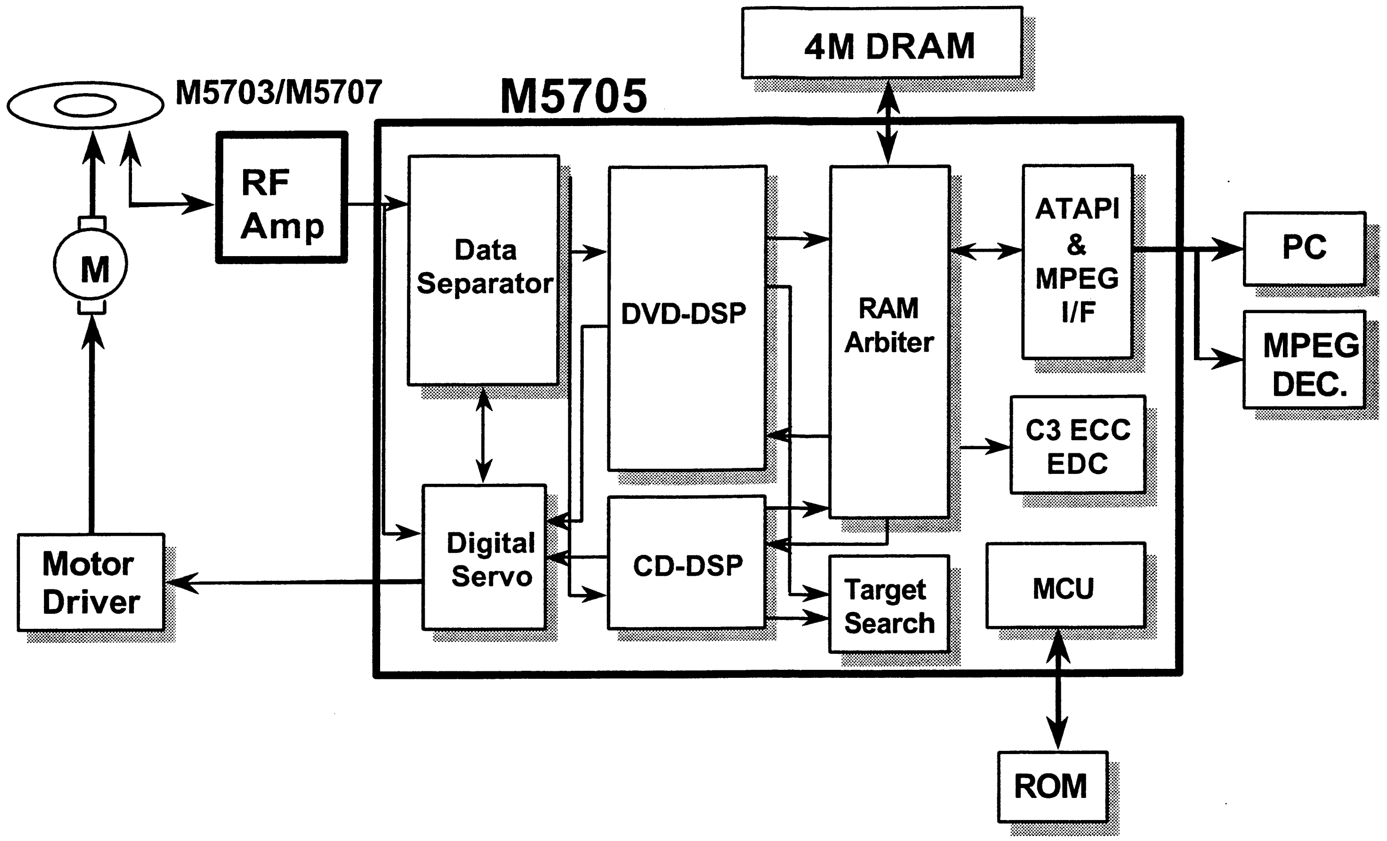
M5705 (Ali) Application



5705 Pins Descriptions

Pin Name	Pin No.	Type	Description
Servo Data Slicer Interface Pins			
XSRFIN	2	I / A	Analog RF signal input after passing through the equalizer.
XSIPIN	3	I / A	Inverting input pin of data slicer.
XSDSSLV	5	O / A	Slice level output pin.
XSRSLINT	6	I / A	Reference current setting pin for analog data slicer.
Servo DAC Interface Pins			
XSAWRC	8	O / A	Output for enlarge VCO range. Analog output from DAC buffer.
XSRFGC	9	O / A	RF gain control output.
XSEFGC	10	O / A	E,F gain control output.
XSFOCUS	11	O / A	Output voltage level for focusing buffer IC.
XSTRACK	12	O / A	Output voltage level for tracking buffer IC.
XSSLEG	13	O / A	Output voltage level for sledge buffer IC.
XSMOTOR	15	O / A	Output voltage level for spindle motor buffer IC.
Servo Comparator Interface Pins			
XSRFRPLP	17	I / A	High bandwidth low pass filter input for RFRP.
XSTELP	18	I / A	High bandwidth low pass filter input for TE.
Servo ADC Interface Pins			
XSVREF2	19	I / A	2.1V reference voltage input.
XSRFRP	20	I / A	RF ripple/envelope signal input.
XSTEXI	21	I / A	Tracking zero crossing input signal.
XSTEI	23	I / A	Tracking error input signal.
XSFEI	24	I / A	Focus error input signal.
XSCEI	25	I / A	1. Center error input signal. 2. Photo Interrupt Input.
XSSBAD	27	I / A	Sub-beam addition signal input.
Servo PLL Interface Pins			
XSPDIREF	166	I / A	Phase detector reference current generator. Connect a resistor between this pin and ground to set reference current.
XSFDIREF	167	I / A	Frequency detector reference current generator. Connect a resistor between this pin and ground to set reference current.
XSPLLFTR2	169	I / A	Data PLL loop filter pin #2.
XSFDO	171	O / A	Output node of frequency detector charge pump circuit.
XSFTROPI	172	I / A	Input node of loop filter OP circuit.
XSVR_PLL	173	I / A	PLL reference voltage input.
XSPDOFTR2	174	I / A	Phase detector filter pin #1.
XSVREFO	175	O / A	Reference voltage output.
XSAWRCVCO	176	I / A	Auto Wide Range ControlVCOinput pin. For enlarge VCO range in CAV mode.
Servo Control Interface Pins			
XSDFCT	29	I	Defect detection signal input.
XSCSJ	30	O	Chip select signal for accessing control registers.
XSCLK	31	O	Clock output for accessing control registers.
XSDATA	32	I/O	Registers data input/output pin.
XSLDC	33	O	Laser diode on/off control output for both CD/DVD.
XSFGIN	34	I	Motor Hall sensor input.
XSSPDON	35	O	Spindle motor on output.
XSFLAG[3:0]	36,37, 38,39	O	These pins are used to monitor some status of servo control block.

Pin Name	Pin No.	Type	Description
Microcontroller Interface Pins			
XGPIO[2:0]	48,51,52	I/O	1. These pins are used as general purpose I/O bus. 2. When use internal microcontroller, XGPIO[2] can be used as programmable I/O port 3.6.
XMP1_7	40	I/O	Internal microcontroller programmable I/O port 1.7.
XMP1_6	41	I/O	Internal microcontroller programmable I/O port 1.6.
XMP1_5	43	I/O	***This pin is now changed to be NC.***
XMP1_4	44	I/O	Internal microcontroller programmable I/O port 1.4.
XMP1_3	45	I/O	Internal microcontroller programmable I/O port 1.3.
XMP1_2	47	I/O	Internal microcontroller programmable I/O port 1.2.
XMP1_1	49	I/O	Internal microcontroller programmable I/O port 1.1.
XMP1_0	57	I/O	Internal microcontroller programmable I/O port 1.0. This pin is default used as the A16 (microcontroller address line 16).
XMFSCSJ	46	I/O	Output chip select connected to external flash ROM chip enable pin.
XMPSENJ	54	I/O	Output program store enable connected to external ROM PSENJ pin.
XMALE	56	I/O	This signal is used as address latch signal in address/data mux mode.
XMCSJ	70	I/O	1. This signal must be asserted for all microcontroller accesses to the registers of this chip. 2. When use internal microcontroller, this signal can be used as programmable I/O port 3.1.
XMRDJ	71	I/O	1. This signal is used as the Read Strobe signal. 2. When use internal microcontroller, this signal can be used as programmable I/O port 3.0.
XMWRJ	72	I/O	This signal is used as the Write Strobe signal.
XMINT1J	73	I/O	1. This signal is an interrupt line to the microcontroller. 2. When use internal microcontroller, this signal can be used as programmable I/O port 3.7.
XMA[15:0]	91, 90, 89, 87, 74, 75, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86	I/O	These pins are used as address bus.
XMD[7:0]	69, 68, 67, 66, 65, 64, 63, 62	I/O	These pins are used as data bus for the 16-bit processor mode, or the address/data mux bus for the 8-bit processor mode.
Miscellaneous Pins			
XTPLCK	163	I/O	**PLCK test pin.**
XTSLRF	164	I/O	**SLRF test pin.**
XOSC1	59	I	**Crystal input/ System clock**. The input frequency from outside crystal or oscillator is 33.8688Mhz.
XOSC2	60	O	**Crystal output.**
XCRSTJ	53	I	**Chip Reset**. An asserted lowinput generates a component reset that stops all operations within the chip and deasserts all output signals. All input/output signals are set to input.

M5705 Pins Descriptions

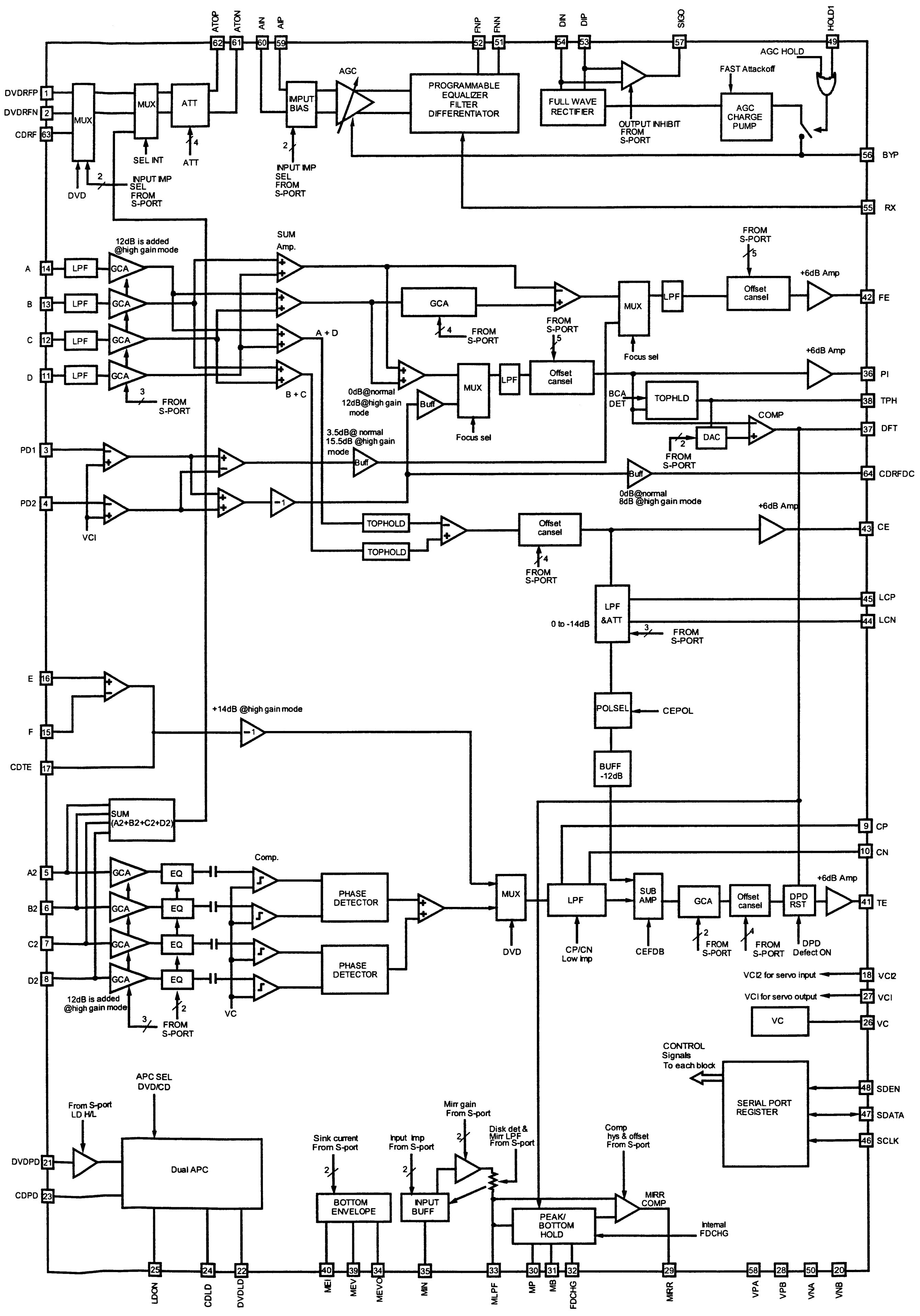
Pin Name	Pin No.	Type	Description
Host Interface Pins			
XHCS1J	94	I	This pin is used to select the command block task file registers.
XHCS3J	93	I	This pin is used to select the control block task file registers.
XHIORJ	103	I	Asserted by the host during a host I/O read operation.
XHIOWJ	104	I	Asserted by the host during a host I/O write operation.
XHDRQ	105	O	**1. DMA request**. This pin is configured as the DMA request signal, and is used during DMA transfer between the host and the controller. This pin is tri-stated when DMA transfers are not enabled. **2. MPEG acknowledge**. This pin is used as the ACKJ signal when MPEG interface mode is selected.
XHDACKJ	101	I	**1. DMA acknowledge**. This pin is configured as DACKJ, and is used as the DMA acknowledge signal during DMA data transfers. **2. MPEG request**. This pin is used as the REQ signal when MPEG interface mode is selected.
XHCS16J	99	O	**1. 16-bit data select**. This signal indicates that a 16-bit data transfer is active on the host data bus. This pin is open-drain tri-state output. **2. MPEG clock**. This pin is used as the CLOCK signal when MPEG interface mode is selected.
XHRSTJ	50	I	**Host Reset.** The reset of ATA bus
XHINT	100	O	**1. Host interrupt request**. This tri-state pin is the host interrupt request, and is asserted to indicate to the host that the controller needs attention. **2. MPEG begin**. This pin is used as the BEGIN signal when MPEG interface mode is selected.
XHPDIAGJ	97	I/O	This pin is used as the Passed Diagnostics signal, and may be an input or an open-drain output.
XHDASPJ	92	I/O	This pin is used as the Drive Active/ Slave Presentsignal, and is an input or an open-drain output. This pin is used for Master/Slave drive communication and/or for driving an LED.
XHIORDY	102	O	**1. I/O channel ready**. This signal is driven low to extend host transfer cycles when the controller is not ready to respond. This pin will be tri-stated when a read or write is not in progress. **2. MPEG error**. This pin is used as the ERROR signal when MPEG interface mode is selected.
XHA[2:0]	95, 98, 96	I	**Host address lines**. The host address lines A[2:0] are used to access the various host control, status, and data registers.
XHD[15:0]	106, 108, 111, 113, 116, 118, 120, 122, 123, 121, 119, 117, 114, 112, 109, 107	I/O	**1. Host data bus**. This bus is used to transfer data and status between the host and the controller. **2. MPEG data bus 7-0**. The HD[7:0] are used as the DATA[7:0] when MPEG interface mode is selected. **3. VCD I/F.** Bit3-0 are used as VCD I/F signal when VCD function is enabled. The relationship of bit3-0 and VCD I/F is as follow. HD0 → CD-DATA HD1 → CD-LRCK HD2 → CD-BCK HD3 → CD-C2PO

Pin Name	Pin No.	Type	Description
RAM Interface Pins			
XRSDCLK	143	O	This signal is the clock output for SDRAM.
XROEJ	147	O	This signal is used as the memory output enable for external DRAM buffers. After RSTJ is asserted, this signal will be low.
XRWEJ	142	O	This signal is asserted low when a buffer memory write operation is active.
XRRASJ	144	O	This signal is used as Row address output to external DRAM buffer. After RSTJ is asserted, this signal will be high.
XRCASJ	145	O	This signal is used as column address output to external DRAM. After RSTJ is asserted, this signal will be high.
XRA[11:0]	151, 152, 148, 149, 153, 155, 156, 157, 161, 160, 159, 158	O	**1. RAM address lines**. These are bits 11-0 for addressing the buffer memory. **2. Hardware setting**. The bits 6-0 are used as hardware setting for some functions. RA[9] : FLASH size is 64K/128K 1 : FLASH size is 64K. 0 : FLASH size is 128K. RA[8] : External CPU is 8032/H8 1 : 8032 0 : H8 RA[7] : Microcontroller programmable I/O port 1 pin control 1 : By internal microcontroller. 0 : By registers to decide input/output. RA[6] : System testpin output. 1 : Normal operation. 0 : System test pin output. RA[5] : For testing purpose, don't need to set RA[4] : IDE master/slave. 1 : Slave. 0 : Master. RA[3] : For testing purpose, don't need to set RA[2] : For testing purpose, don't need to set RA[1-0] : MCU Mode selection. 11 : Normal Mode (internal uP,internal address latch). 10 : Outside uP Mode (ICE Mode). 01 : Test mode for internal uP testing. 00 : Internal uP mode with external address latch.
XRD[15:0]	124, 126, 128, 131, 133, 135, 137, 140, 141, 139, 136, 134, 132, 129, 127, 125	I/O	These signals are the 8-bit parallel data lines to/from the buffer memory.

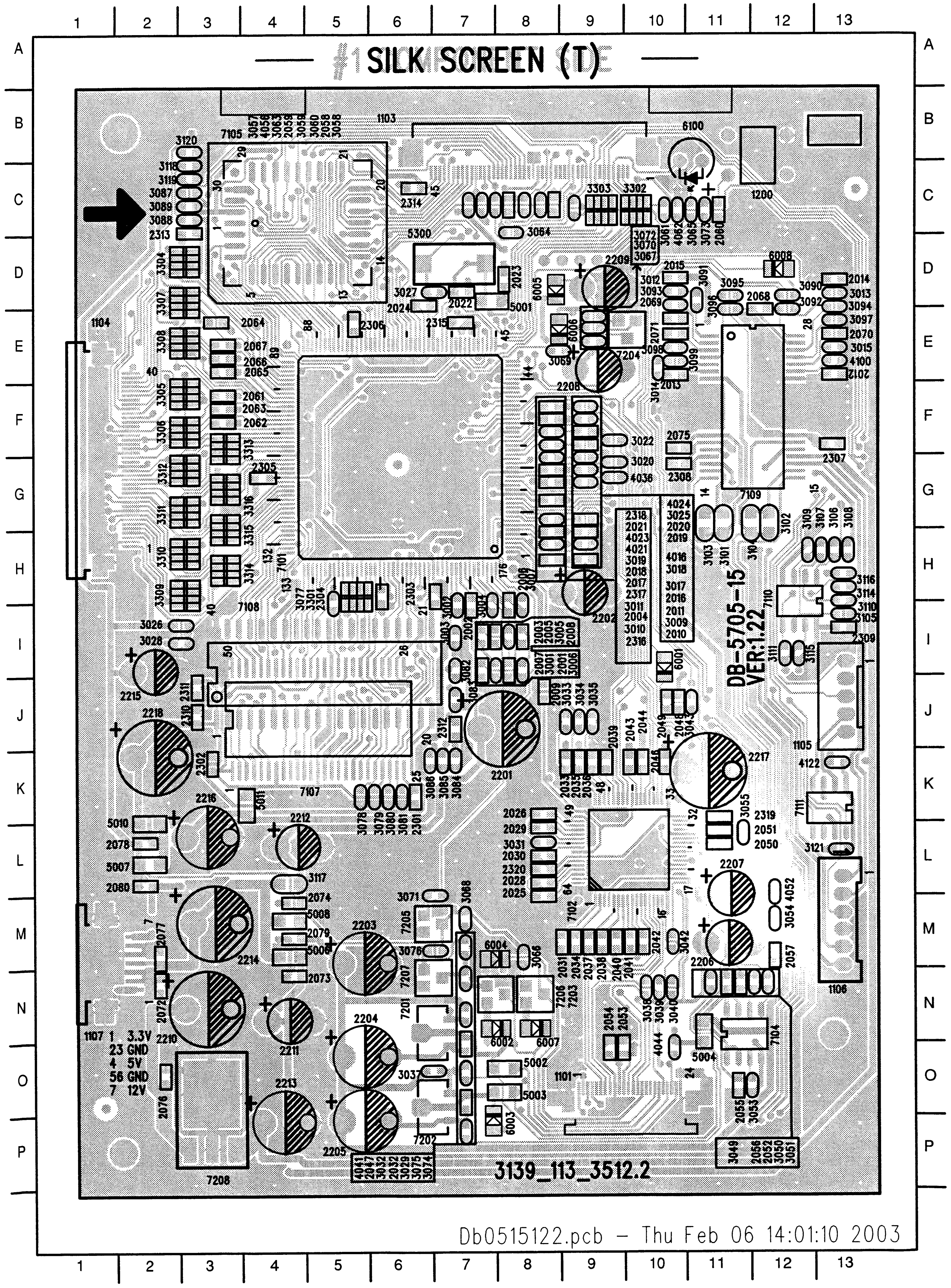
15705 Pins Descriptions

Pin Name	Pin No.	Description
Power Pins		
AVDD5_DS	4	Analog Power +5V for Data Slicer part.
AVDD5_DA	14	Analog Power +5V for DAC part.
AVDD5_AD	26	Analog Power +5V for ADC part.
AVDD5_PL	168	Analog Power +5V for Data PLL part.
VDD	7,55,58, 76,115, 146,150, 162	Power + 3.3V for digital core logic and pad.
AVSS_DS	1	Analog Ground for Data Slicer part.
AVSS_DA	16	Analog Ground for DAC part.
AVSS_AD	22	Analog Ground for ADC part.
AVSS_PL	170	Analog Ground for Data PLL part.
GND	28,42,61, 88,110, 130,138, 154,165	Digital Ground for core logic and pad.

SP32721A Internal Block Diagram

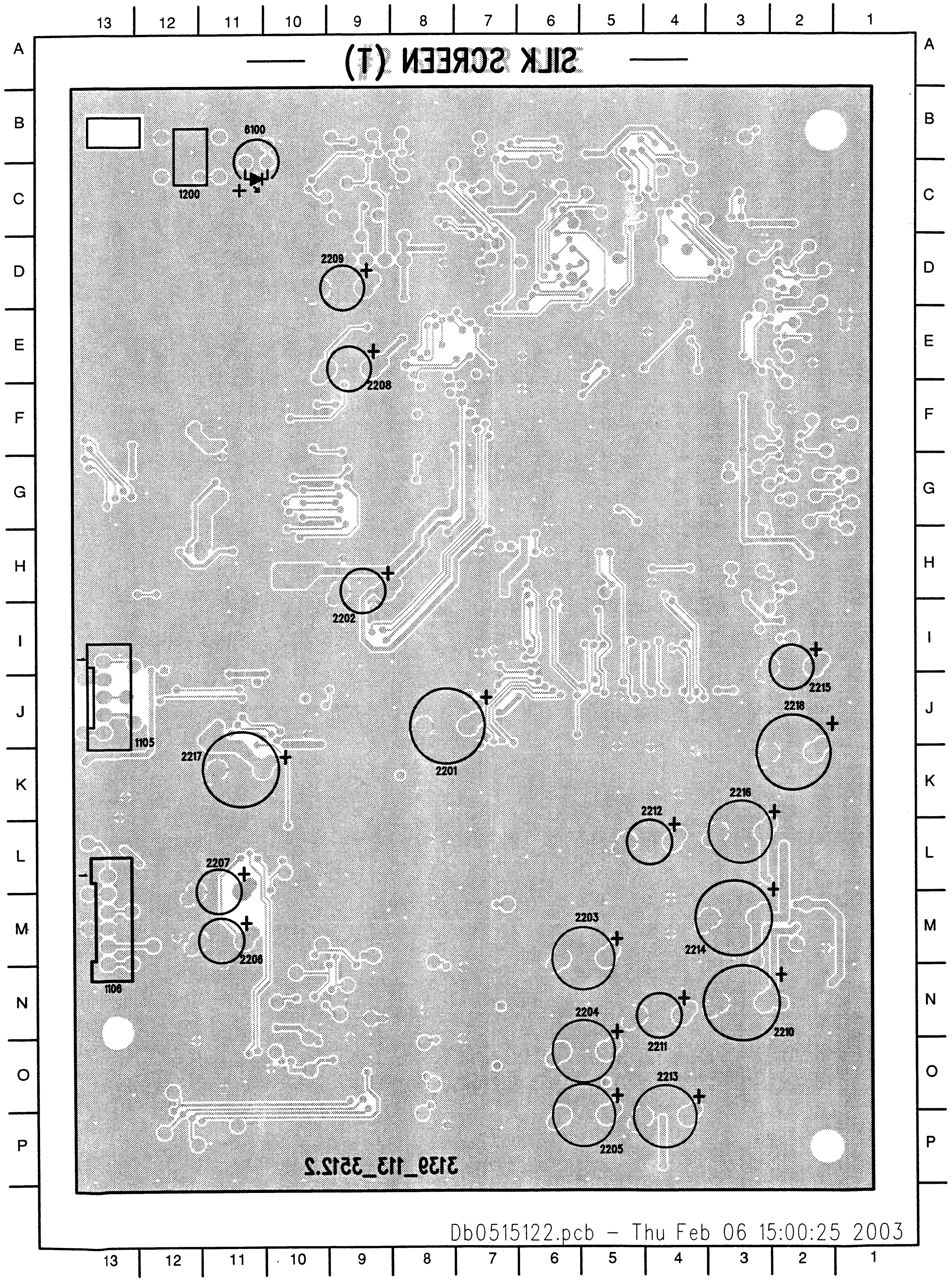

ATOP
ATON
AIN
AIP
FNP
FNN
DIN
DIP
SIGO
HOLD1
DVDRFP 1
DVDRFN 2
CDRF 63
MUX
ATT
SEL INT
INPUT IMP SEL FROM S-PORT
DVD
IMPUT BIAS
AGC
PROGRAMMABLE EQUALIZER FILTER DIFFERENTIATOR
FULL WAVE RECTIFIER
OUTPUT INHIBIT FROM S-PORT
AGC HOLD
FAST Attackoff
AGC CHARGE PUMP
56 BYP
55 RX
12dB is added @high gain mode
SUM Amp.
A 14
B 13
C 12
D 11
LPF
GCA
FROM S-PORT
A + D
B + C
Offset cansel
+6dB Amp
42 FE
Focus sel
0dB@normal 12dB@high gain mode
3.5dB@ normal 15.5dB @high gain mode
Buff
36 PI
BCA DET
TOPHLD
38 TPH
COMP
DAC
37 DFT
0dB@normal 8dB @high gain mode
64 CDRFDC
PD1 3
PD2 4
VCI
TOPHOLD
43 CE
LPF &ATT
0 to -14dB
45 LCP
44 LCN
E 16
F 15
CDTE 17
+14dB @high gain mode
POLSEL
CEPOL
BUFF -12dB
SUM (A2+B2+C2+D2)
9 CP
10 CN
A2 5
B2 6
C2 7
D2 8
EQ
Comp.
PHASE DETECTOR
VC
SUB AMP
DPD RST
41 TE
CP/CN Low Imp
CEFDB
DPD Defect ON
VCI2 for servo input
18 VCI2
VCI for servo output
27 VCI
26 VC
CONTROL Signals To each block
SERIAL PORT REGISTER
48 SDEN
47 SDATA
46 SCLK
APC SEL DVD/CD
From S-port LD H/L
DVDPD 21
CDPD 23
Dual APC
Sink current From S-port
BOTTOM ENVELOPE
Input Imp From S-port
INPUT BUFF
Mirr gain From S-port
Disk det & Mirr LPF From S-port
PEAK/ BOTTOM HOLD
Comp hys & offset From S-port
MIRR COMP
Internal FDCHG
LDON 25
CDLD 24
DVDLD 22
MEI 40
MEV 39
MEVO 34
MIN 35
MLPF 33
MP 30
MB 31
FDCHG 32
MIRR 29
VPA 58
VPB 28
VNA 50
VNB 20

TOP VIEW - SMD & COMPONENT LAYOUT



1101	O9	2310	J3	3301	H6
1102	C9	2311	I3	3302	C10
1103	B8	2312	J7	3303	C9
1104	F2	2313	C3	3304	C3
1105	I13	2314	B6	3305	E3
1106	M13	2315	D7	3306	F3
1107	M2	2316	G8	3307	D3
1200	B11	2317	G8	3308	D3
2001	I8	2318	E8	3309	H3
2002	H7	2319	K11	3310	G3
2003	I7	2320	L8	3311	G3
2004	G8	3001	I8	3312	F3
2005	I8	3002	H7	3313	F4
2006	H8	3003	I7	3314	H4
2007	I7	3004	H7	3315	G4
2008	I8	3005	I8	3316	F4
2009	I8	3006	I8	4016	F9
2010	G9	3007	H8	4021	F8
2011	G9	3009	G9	4023	F8
2012	E12	3010	G8	4024	E9
2013	E10	3011	G8	4036	F9
2014	D12	3012	D10	4041	P7
2015	C10	3013	D12	4044	N10
2016	G9	3014	E10	4052	L12
2017	F8	3015	D12	4056	B7
2018	F8	3017	F9	4062	C10
2019	F9	3018	F9	4100	E12
2020	F9	3019	F8	4122	J12
2021	E8	3020	F9	5001	D7
2022	D7	3022	F9	5002	O8
2023	D8	3025	E9	5003	O8
2024	D7	3026	H3	5004	N11
2025	L8	3027	D7	5006	M5
2026	K8	3028	I3	5007	L3
2028	L8	3029	N7	5008	M5
2029	K8	3031	K8	5010	K3
2030	L8	3032	O7	5011	K4
2031	M8	3033	J9	5300	C7
2032	N7	3034	J9	6001	I10
2033	J9	3035	J9	6002	N8
2034	M9	3037	O7	6003	O7
2035	J9	3038	N10	6004	M8
2036	J9	3039	N10	6005	D8
2037	M9	3040	N10	6006	D8
2038	M9	3042	M10	6007	N8
2039	J9	3043	J10	6008	C12
2040	M9	3049	M11	6100	B10
2041	M9	3050	M11	7101	F6
2042	M10	3051	M11	7102	L9
2043	J9	3053	O11	7104	N11
2044	J10	3054	M12	7105	C5
2046	J10	3055	K11	7107	J5
2047	O7	3057	B7	7108	I5
2048	J10	3058	C9	7109	E11
2049	J10	3059	B8	7110	H12
2050	L11	3060	B8	7111	K12
2051	K11	3061	C10	7201	N7
2052	M11	3063	B8	7202	O7
2053	N9	3064	C8	7203	N8
2054	N9	3065	C10	7204	D9
2055	O11	3066	M8	7205	M7
2056	M11	3067	D9	7206	N8
2057	M12	3068	M7	7207	M7
2058	B8	3069	E8	7208	O3
2059	B8	3070	D9		
2060	C11	3071	L7		
2061	E4	3072	D9		
2062	F4	3073	C11		
2063	E4	3074	M7		
2064	D4	3075	M7		
2065	E4	3076	M7		
2066	E4	3077	H5		
2067	D4	3078	K6		
2068	D11	3079	K6		
2069	D10	3080	K6		
2070	D12	3081	K6		
2071	D10	3082	I7		
2072	M3	3083	I7		
2073	M5	3084	J7		
2074	L5	3085	J7		
2075	F10	3086	J7		
2076	O3	3087	B3		
2077	M3	3088	C3		
2078	K2	3089	B3		
2079	M5	3090	D12		
2080	L2	3091	D10		
2201	J8	3092	D12		
2202	H9	3093	D10		
2203	M6	3094	D12		
2204	O6	3095	D11		
2205	O6	3096	D11		
2206	M11	3097	D12		
2207	L11	3098	D10		
2208	E9	3099	E10		
2209	D9	3101	G11		
2210	N3	3102	G11		
2211	N5	3103	G11		
2212	L5	3104	G11		
2213	O4	3105	H13		
2214	M4	3106	G12		
2215	I3	3107	G12		
2216	K3	3108	G13		
2217	J11	3109	G12		
2218	J3	3110	H13		
2301	K6	3111	I12		
2302	J3	3114	H13		
2303	H7	3115	I12		
2304	H6	3116	H13		
2305	F4	3117	L5		
2306	D6	3118	B3		
2307	F12	3119	B3		
2308	F10	3120	B3		
2309	H13	3121	L13		

OTTOM VIEW - COMPONENT LAYOUT


SILK SCREEN (T)
1200
6100
2209
2208
2202
1105
2217
2201
2215
2218
2216
2212
2207
2206
1106
2203
2214
2210
2204
2211
2213
2205
3139_113_3512.2
Db0515122.pcb - Thu Feb 06 15:00:25 2003
13
12
11
10
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8
7
6
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4
3
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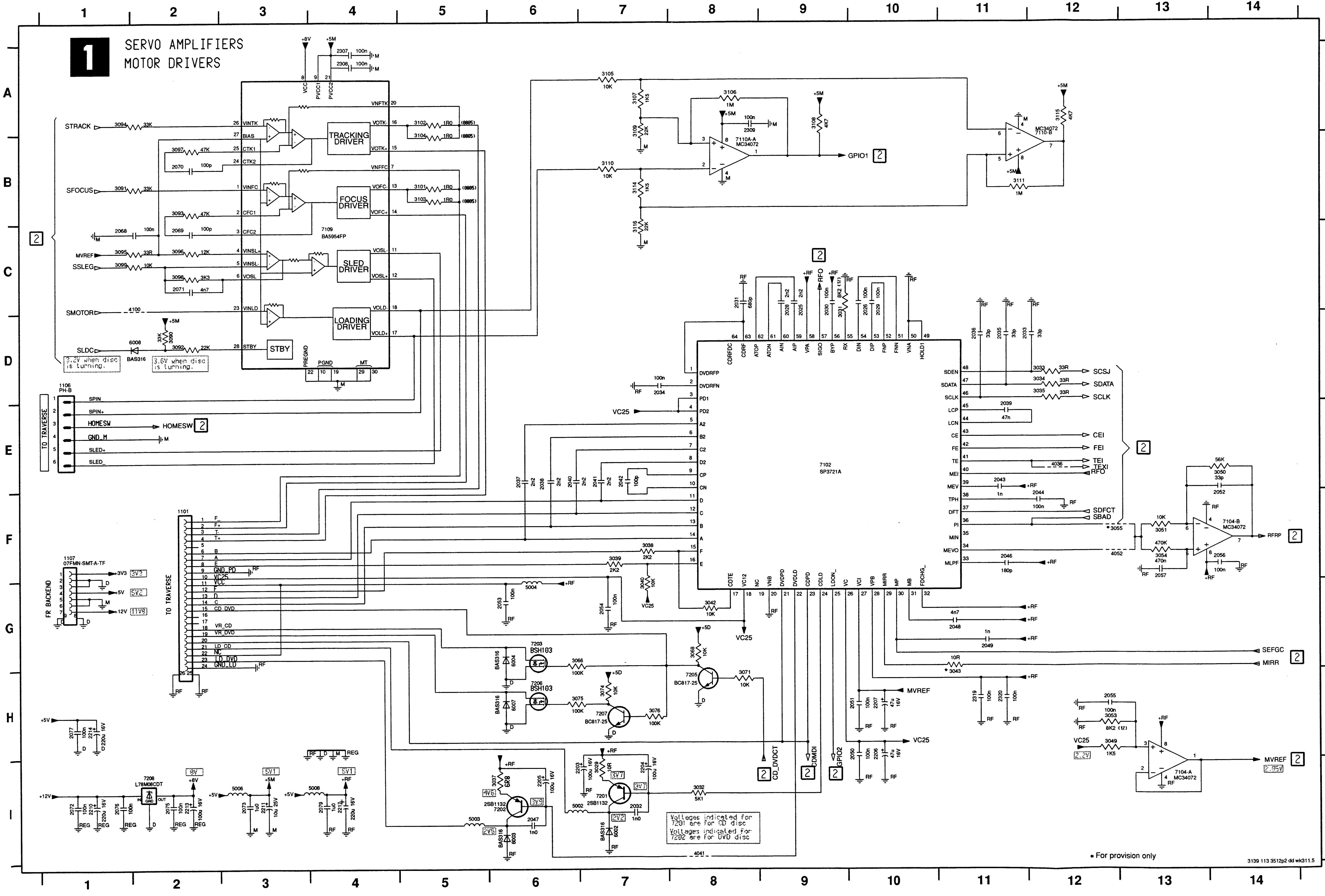
1
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

1105	I13
1106	M13
1200	B11
2201	J8
2202	H9
2203	M6
2204	O6
2205	O6
2206	M11
2207	L11
2208	E9
2209	D9
2210	N3
2211	N5
2212	L5
2213	O4
2214	M4
2215	I3
2216	K3
2217	J11
2218	J3
6100	B10

SERVO AMPLIFIERS & MOTOR DRIVERS CIRCUIT

1101	F2
1106	D1
1107	F1
2025	C9
2026	C10
2028	C9
2029	C10
2030	C9
2031	C8
2032	I7
2033	D11
2034	D7
2035	D11
2036	D11
2037	E6
2038	E6
2039	E11
2040	E6
2041	E7
2042	E7
2043	E11
2044	F12
2046	F11
2047	I6
2048	G11
2049	G11
2050	H10
2051	H10
2052	F14
2053	G6
2054	G7
2055	H12
2056	F14
2057	F13
2068	C1
2069	C2
2070	B2
2071	C2
2072	I1
2073	I3
2075	I2
2076	I1
2077	H1
2079	I4
2203	I6
2204	I7
2205	I6
2206	H10
2207	H10
2210	I1
2211	I3
2213	I2
2214	H1
2217	I4
2307	A4
2308	A4
2309	A8
2319	H11
2320	H11
3029	I7
3031	D9
3032	I8
3033	D12
3034	D12
3035	D12
3037	I6
3038	F7
3039	F7
3040	G7
3042	G8
3043	H11
3049	H12
3050	E14
3051	F13
3053	H12
3054	F13
3055	F12
3066	G6
3068	G8
3071	H8
3074	H7
3075	H6
3076	H7
3090	D2
3091	B1
3092	D2
3093	B2
3094	A1
3095	C1
3096	C2
3097	B2
3098	C2
3099	C1
3101	B5
3102	A5
3103	B5
3104	B5
3105	A7
3106	A8
3107	A7
3108	A9
3109	A7
3110	B7
3111	B11
3114	B7
3115	A12
3116	C7
4036	E12
4041	I8
4052	F12
4100	C2
5002	I6
5003	I5
5004	G6
5006	I3
5008	I4
6002	I7
6003	I6
6004	G6
6007	H6
6008	D2
7102	E9
7104-A	I13
7104-B	F14
7110-B	A12
7110A-A	B8
7201	I7
7202	I6
7203	G6
7205	H8
7206	H6
7207	H7
7208	I2


1
2
3
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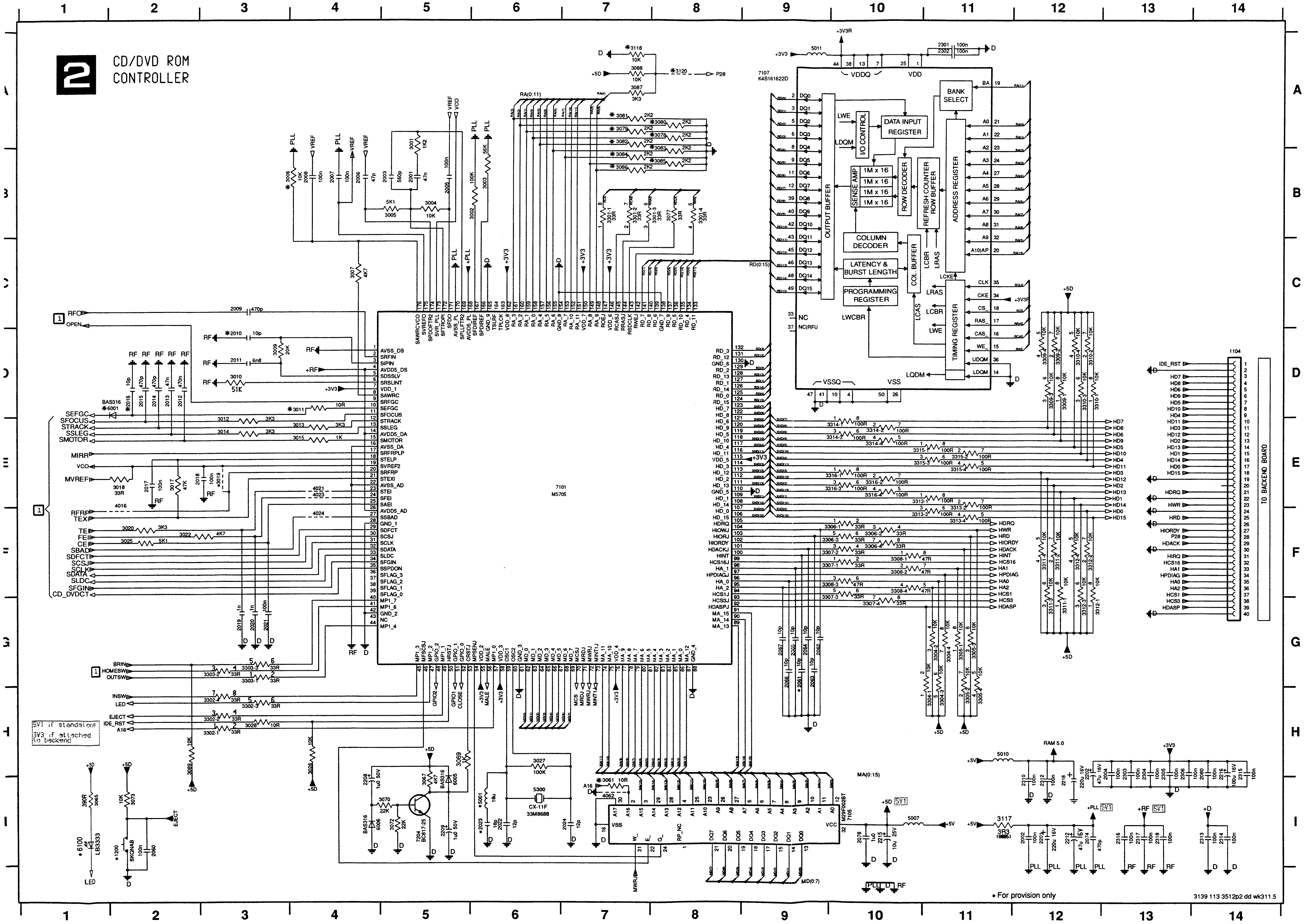
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
1
SERVO AMPLIFIERS
MOTOR DRIVERS
STRACK
SFOCUS
MVREF
SSLEG
SMOTOR
SLDC
3.2V when disc is turning.
3.6V when disc is turning.
TRACKING DRIVER
FOCUS DRIVER
SLED DRIVER
LOADING DRIVER
STBY
7109
BA5954FP
VINTK
BIAS
CTK1
CTK2
VINFC
CFC1
CFC2
VINSL+
VINSL-
VOSL
VINLD
VNFTK
VOTK-
VOTK+
VNFFC
VOFC-
VOFC+
VOSL-
VOSL+
VOLD-
VOLD+
PREGND
PGND
MT
VCC
PVCC1
PVCC2
+8V
+5M
1106
PH-B
TO TRAVERSE
SPIN_
SPIN+
HOMESW
GND_M
SLED+
SLED_
HOMESW 2
1101
TO TRAVERSE
F
F+
T
T+
B
A
E
GND_PD
VC25
VCC
F
D
C
CD_DVD
VR_CD
VR_DVD
LD_CD
NC
LD_DVD
GND_LD
1107
07FMN-SMT-A-TF
FR BACKEND
+3V3
+5V
+12V
7208
L78M08CDT
+12V
+8V
+5V
7110-A
MC34072
7110-B
MC34072
GPIO1 2
7102
SP3721A
DVDRFP
DVDRFN
PD1
PD2
A2
B2
C2
D2
CP
CN
CDRFDC
CDRF
ATOP
ATON
AIN
AIP
VPA
SIGO
BYP
RX
DIN
DIP
FNP
FNN
VNA
HOLD1
SDEN
SDATA
SCLK
LCP
LCN
CE
FE
TE
MEI
MEV
TPH
DFT
PI
MIN
MEVO
MLPF
CDTE
VC12
VNB
DVDPD
DVDLD
CDPD
CDLD
LDON_
VCI
VPB
MIRR
MB
FDCHG_
VC25
SCSJ
SDATA
SCLK
CEI
FEI
TEI
TEXI
RFO
SDFCT
SBAD
2
7104-B
MC34072
RFRP 2
SEFGC 2
MIRR 2
MVREF
VC25
7104-A
MC34072
MVREF 2
CD_DVDCT 2
CDMDI 2
GPIO2 2
7203
BSH103
7206
BSH103
7205
BC817-25
7207
BC817-25
7201
2SB1132
7202
2SB1132
BAS316
Voltages indicated for 7201 are for CD disc
Voltages indicated for 7202 are for DVD disc
3139 113 3512p2 dd wk311.5

• For provision only

CD/DVD ROM CONTROLLER CIRCUIT


2
CD/DVD ROM CONTROLLER
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
7101
M5705
7107
K4S161622D
VDDQ
VDD
VSSQ
VSS
BANK SELECT
DATA INPUT REGISTER
I/O CONTROL
LWE
LDQM
1M x 16
SENSE AMP
ROW DECODER
REFRESH COUNTER ROW BUFFER
ADDRESS REGISTER
OUTPUT BUFFER
COLUMN DECODER
LATENCY & BURST LENGTH
PROGRAMMING REGISTER
COL. BUFFER
TIMING REGISTER
LCBR
LRAS
LCKE
LCAS
LWCBR
LQDM
NC
NC/RFU
RA(0:11)
RD(0:15)
MA(0:15)
MD(0:7)
7105
M29F002BT
5300
CX-11F
33M8688
7204
BC817-25
1104
TO BACKEND BOARD
IDE_RST
HDRQ
HWR
HRD
HIORDY
P28
HDACK
HIRQ
HCS16
HA1
HPDIAG
HA0
HA2
HCS1
HCS3
HDASP
RFO
OPEN
SEFGC
SFOCUS
STRACK
SSLEG
SMOTOR
MIRR
VCO
MVREF
RFRP
TEXI
TE
FEI
CEI
SBAD
SDFCT
SCSJ
SCLK
SDATA
SLDC
SFGIN
CD_DVDCT
BRIN
HOMESW
OUTSW
INSW
LED
EJECT
IDE_RST
A16
SV1 if standalone
3V3 if attached to backend
RAM 5.0
+3V3
+3V3R
+5D
+5V
PLL
RF
D
* For provision only
3139 113 3512p2 dd wk311.5

1104	D14
1200	I2
2001	B5
2002	I12
2003	B5
2004	H13
2005	B5
2006	B4
2007	B4
2008	B4
2009	C3
2010	D3
2011	D3
2012	D2
2013	D2
2014	D2
2015	D2
2016	D2
2017	E2
2018	E2
2019	G3
2020	G3
2021	G3
2022	I6
2023	I6
2024	I7
2060	I2
2061	G9
2062	G9
2063	G9
2064	G9
2065	G9
2066	G9
2067	G9
2074	I12
2078	I10
2080	H14
2201	I12
2202	H12
2208	I4
2209	I5
2212	I12
2215	I10
2216	H14
2218	I12
2301	A11
2302	A11
2303	H13
2304	H13
2305	H13
2306	H13
2310	I12
2312	I12
2313	I14
2314	I14
2315	H14
2316	I13
2317	I13
2318	I13
3001	A5
3002	B6
3003	B6
3004	B5
3005	B5
3006	B4
3007	C4
3009	D3
3010	D3
3011	D4
3012	E3
3013	E4
3014	E3
3015	E4
3017	E2
3018	E2
3019	E3
3020	F2
3022	F2
3025	F2
3026	H4
3027	H6
3028	H3
3061	I7
3065	I1
3067	I5
3069	H5
3070	I5
3072	I5
3073	I2
3077	B8
3078	A8
3079	A7
3080	A8
3081	A7
3082	A7
3083	B8
3084	B7
3085	B8
3086	B7
3087	A7
3088	A7
3089	H2
3117	I11
3118	A7
3120	A8
3301-1	B7
3301-2	B7
3301-3	B8
3301-4	B8
3302-1	H3
3302-2	H3
3302-3	H3
3302-4	H3
3303-1	G3
3303-2	G3
3303-3	G3
3304-1	G11
3304-2	G11
3304-3	G11
3304-4	G11
3305-1	G11
3305-2	H11
3305-3	G11
3305-4	H11
3306-1	F10
3306-2	F10
3306-3	F10
3306-4	F10
3307-1	F10
3307-2	F10
3307-3	G10
3307-4	G10
3308-1	F10
3308-2	F10
3308-3	F10
3308-4	F10
3309-1	D12
3309-2	D12
3309-3	D12
3309-4	D12
3310-1	D12
3310-2	D12
3310-3	D12
3310-4	D12
3311-1	G12
3311-2	F12
3311-3	G12
3311-4	F12
3312-1	G12
3312-2	F12
3312-3	G12
3312-4	F12
3313-1	E10
3313-2	F11
3313-3	F10
3313-4	F11
3314-1	E10
3314-2	E10
3314-3	E10
3314-4	E10
3315-1	E10
3315-2	E11
3315-3	E10
3315-4	E11
3316-1	E10
3316-2	E10
3316-3	E10
3316-4	E10
4016	F2
4021	E4
4023	E4
4024	F4
4062	I7
5001	I6
5007	I10
5010	H11
5011	A9
5300	I6
6001	D2
6005	I5
6006	I4
6100	I1
7101	E7
7105	I10
7204	I5

ELECTRICAL PARTS LIST - MONO-FE BOARD

MISCELLANEOUS

	3139 118 56941	FE (Front End) PCB Assembly CD222
1101	2422 025 17529	FFC Socket 24P Hort.
1104	2422 025 17371	FFC Socket 40P Hort.
1107	2422 025 16806	FFC Socket 7P Hort.

CAPACITORS

2001	3198 017 34730	47nF 16V
2002	2238 586 59812	100nF 50V
2003	4822 126 14249	560pF 10% 50V
2004	2238 586 59812	100nF 50V
2005	2238 586 59812	100nF 50V
2006	4822 126 11785	47pF 5% 50V
2007	2238 586 59812	100nF 50V
2008	2238 586 59812	100nF 50V
2009	4822 126 13881	470pF 5% 50V
2011	5322 126 11582	6,8nF 10% 63V
2012	3198 017 44740	470nF 10V
2013	3198 017 34730	47nF 16V
2014	4822 126 13881	470pF 5% 50V
2015	4822 126 13881	470pF 5% 50V
2017	2238 586 59812	100nF 50V
2018	2238 586 59812	100nF 50V
2019	3198 016 31020	1nF 25V
2020	3198 016 31020	1nF 25V
2021	2238 586 59812	100nF 50V
2022	4822 126 11663	12pF 50V
2024	4822 126 11663	12pF 50V
2025	4822 126 14238	2,2nF 50V
2026	2238 586 59812	100nF 50V
2028	4822 126 14238	2,2nF 50V
2029	2238 586 59812	100nF 50V
2030	2238 586 59812	100nF 50V
2031	3198 016 36810	680pF 25V
2032	3198 016 31020	1nF 25V
2033	2222 867 15339	33pF 5% 50V
2034	2238 586 59812	100nF 50V
2035	2222 867 15339	33pF 5% 50V
2036	2222 867 15339	33pF 5% 50V
2037	4822 126 14238	2,2nF 50V
2038	4822 126 14238	2,2nF 50V
2039	3198 017 34730	47nF 16V
2040	4822 126 14238	2,2nF 50V
2041	4822 126 14238	2,2nF 50V
2042	2020 552 94427	100pF 5% 50V
2043	3198 016 31020	1nF 25V
2044	2238 586 59812	100nF 50V
2046	4822 126 14508	180pF 5% 50V
2047	3198 016 31020	1nF 25V
2048	4822 126 13193	4,7nF 10% 63V
2049	3198 016 31020	1nF 25V
2050	2238 586 59812	100nF 50V
2051	2238 586 59812	100nF 50V
2052	2222 867 15339	33pF 5% 50V
2053	2238 586 59812	100nF 50V
2054	2238 586 59812	100nF 50V
2055	2238 586 59812	100nF 50V
2056	2238 586 59812	100nF 50V
2057	3198 017 44740	470nF 10V
2058	4822 126 11785	47pF 5% 50V
2059	4822 126 11785	47pF 5% 50V
2060	2238 586 59812	100nF 50V
2062	4822 122 33741	10pF 10% 50V
2063	4822 122 33741	10pF 10% 50V
2064	4822 122 33741	10pF 10% 50V
2065	4822 122 33741	10pF 10% 50V
2066	4822 122 33741	10pF 10% 50V
2067	4822 122 33741	10pF 10% 50V
2068	2238 586 59812	100nF 50V
2069	2020 552 94427	100pF 5% 50V
2070	2020 552 94427	100pF 5% 50V
2071	4822 126 13193	4,7nF 10% 63V
2072	2238 586 59812	100nF 50V
2073	3198 017 41050	1uF 10V
2074	4822 126 13881	470pF 5% 50V
2075	2238 586 59812	100nF 50V
2076	2238 586 59812	100nF 50V
2077	2238 586 59812	100nF 50V
2078	3198 017 41050	1uF 10V
2079	3198 017 41050	1uF 10V
2080	2238 586 59812	100nF 50V
2201	2022 020 00625	220uF 20% 16V
2202	4822 124 80231	47uF 20% 16V
2203	4822 124 23052	100uF 20% 16V
2204	4822 124 23052	100uF 20% 16V
2205	4822 124 23052	100uF 20% 16V
2206	4822 124 80231	47uF 20% 16V
2207	4822 124 80231	47uF 20% 16V
2208	4822 124 22651	1uF 20% 50V
2209	4822 124 22651	1uF 20% 50V
2210	2022 020 00625	220uF 20% 16V
2211	4822 124 21732	10uF 20% 25V
2212	4822 124 80231	47uF 20% 16V
2213	4822 124 23052	100uF 20% 16V
2214	2022 020 00625	220uF 20% 16V
2215	4822 124 21732	10uF 20% 25V
2216	4822 124 23052	100uF 20% 16V
2217	2022 020 00625	220uF 20% 16V
2218	2022 020 00625	220uF 20% 16V
2301	2238 586 59812	100nF 50V
2302	2238 586 59812	100nF 50V
2303	2238 586 59812	100nF 50V
2304	2238 586 59812	100nF 50V
2305	2238 586 59812	100nF 50V
2306	2238 586 59812	100nF 50V

ELECTRICAL PARTS LIST - MONO-FE BOARD

2307	2238 586 59812	100nF 50V
2308	2238 586 59812	100nF 50V
2309	2238 586 59812	100nF 50V
2310	2238 586 59812	100nF 50V
2312	2238 586 59812	100nF 50V
2313	2238 586 59812	100nF 50V
2314	2238 586 59812	100nF 50V
2315	2238 586 59812	100nF 50V
2316	2238 586 59812	100nF 50V
2317	2238 586 59812	100nF 50V
2318	2238 586 59812	100nF 50V
2319	2238 586 59812	100nF 50V
2320	2238 586 59812	100nF 50V

RESISTORS

3001	4822 117 11817	1k2 1% 1/16W
3002	4822 117 13632	100k 1% 0,062W
3003	4822 051 30563	56k 5% 0,062W
3004	4822 051 30103	10k 5% 0,062W
3005	2322 704 65102	5k1 1% 0,062W
3007	4822 051 30472	4k7 5% 0,062W
3009	2322 704 62003	20k 1% 0,062W
3010	2322 704 65103	51k 1% 0,062W
3012	4822 051 30332	3k3 5% 0,062W
3013	4822 051 30332	3k3 5% 0,062W
3014	4822 051 30332	3k3 5% 0,062W
3015	4822 051 30102	1k 5% 0,062W
3017	4822 117 12925	47k 1% 0.063W
3018	4822 051 30339	33R 5% 0,062W
3020	4822 051 30332	3k3 5% 0,062W
3022	4822 051 30472	4k7 5% 0,062W
3025	2322 704 65102	5k1 1% 0,062W
3026	4822 051 30103	10k 5% 0,062W
3027	4822 117 13632	100k 1% 0,062W
3028	4822 051 30109	10R 5% 0,062W
3029	4822 051 30109	10R 5% 0,062W
3031	5322 117 13056	8k2 1% 0,063W
3032	2322 704 65102	5k1 1% 0,062W
3033	4822 051 30339	33R 5% 0,062W
3034	4822 051 30339	33R 5% 0,062W
3035	4822 051 30339	33R 5% 0,062W
3037	2322 702 60688	6R8 5% 0.062W
3038	4822 051 30222	2k2 5% 0,062W
3039	4822 051 30222	2k2 5% 0,062W
3040	4822 051 30103	10k 5% 0,062W
3042	4822 051 30103	10k 5% 0,062W
3049	4822 051 30152	1k5 5% 0,062W
3050	4822 051 30563	56k 5% 0,062W
3051	4822 051 30103	10k 5% 0,062W
3053	5322 117 13056	8k2 1% 0,063W
3054	4822 051 30474	470k 5% 0,062W
3059	4822 051 30339	33R 5% 0,062W
3060	4822 051 30339	33R 5% 0,062W
3065	4822 051 30391	390R 5% 0,062W
3066	4822 117 13632	100k 1% 0,062W
3067	4822 051 30472	4k7 5% 0,062W
3068	4822 051 30103	10k 5% 0,062W
3069	4822 051 30102	1k 5% 0,062W
3070	4822 051 30223	22k 5% 0,062W
3071	4822 051 30103	10k 5% 0,062W
3072	4822 051 30223	22k 5% 0,062W
3073	4822 051 30103	10k 5% 0,062W
3074	4822 051 30103	10k 5% 0,062W
3075	4822 117 13632	100k 1% 0,062W
3076	4822 117 13632	100k 1% 0,062W
3077	4822 051 30339	33R 5% 0,062W
3087	4822 051 30332	3k3 5% 0,062W
3088	4822 051 30103	10k 5% 0,062W
3089	4822 051 30103	10k 5% 0,062W
3090	4822 051 30333	33k 5% 0,062W
3091	4822 051 30333	33k 5% 0,062W
3092	4822 051 30223	22k 5% 0,062W
3093	4822 117 12925	47k 1% 0.063W
3094	4822 051 30333	33k 5% 0,062W
3095	4822 051 30339	33R 5% 0,062W
3096	4822 051 30123	12k 5% 0,062W
3097	4822 117 12925	47k 1% 0.063W
3098	4822 051 30332	3k3 5% 0,062W
3099	4822 051 30103	10k 5% 0,062W
3101	4822 051 20108	1R 5% 0,1W
3102	4822 051 20108	1R 5% 0,1W
3103	4822 051 20108	1R 5% 0,1W
3104	4822 051 20108	1R 5% 0,1W
3105	4822 051 30103	10k 5% 0,062W
3106	4822 051 30105	1M 5% 0,062W
3107	4822 051 30152	1k5 5% 0,062W
3108	4822 051 30472	4k7 5% 0,062W
3109	4822 051 30223	22k 5% 0,062W
3110	4822 051 30103	10k 5% 0,062W
3111	4822 051 30105	1M 5% 0,062W
3114	4822 051 30152	1k5 5% 0,062W
3115	4822 051 30472	4k7 5% 0,062W
3116	4822 051 30223	22k 5% 0,062W
3117	4822 051 20338	3R30 5% 0,1W
3301	4822 117 13576	RES NETWORK 4 X 33R 5% 1206
3302	4822 117 13576	RES NETWORK 4 X 33R 5% 1206
3303	4822 117 13576	RES NETWORK 4 X 33R 5% 1206
3304	4822 117 13578	RES NETWORK 4 X 10k 5% 1206
3305	4822 117 13578	RES NETWORK 4 X 10k 5% 1206
3306	4822 117 13576	RES NETWORK 4 X 33R 5% 1206
3307	4822 117 13576	RES NETWORK 4 X 33R 5% 1206
3308	4822 117 13573	RES NETWORK 4 X 47R 5% 1206
3309	4822 117 13578	RES NETWORK 4 X 10k 5% 1206
3310	4822 117 13578	RES NETWORK 4 X 10k 5% 1206

ELECTRICAL PARTS LIST - MONO-FE BOARD

RESISTORS		
3311	4822 117 13578	RES NETWORK 4 X 10k 5% 1206
3312	4822 117 13578	RES NETWORK 4 X 10k 5% 1206
3313	3198 031 11010	RST NETWORK 4 X 100R 5% 1206
3314	3198 031 11010	RST NETWORK 4 X 100R 5% 1206
3315	3198 031 11010	RST NETWORK 4 X 100R 5% 1206
3316	3198 031 11010	RST NETWORK 4 X 100R 5% 1206
4016	4822 051 30008	0R JUMPER 0603
4021	4822 051 30008	0R JUMPER 0603
4023	4822 051 30008	0R JUMPER 0603
4024	4822 051 30008	0R JUMPER 0603
4036	4822 051 30008	0R JUMPER 0603
4041	4822 051 30008	0R JUMPER 0603
4044	4822 051 30008	0R JUMPER 0603
4052	4822 051 30008	0R JUMPER 0603
4056	4822 051 30008	0R JUMPER 0603
4062	4822 051 30008	0R JUMPER 0603
4100	4822 051 30008	0R JUMPER 0603

COILS & FILTERS		
5002	4822 157 71206	IND FXD 100MHZ 600R
5003	4822 157 71206	IND FXD 100MHZ 600R
5004	4822 157 71206	IND FXD 100MHZ 600R
5006	4822 157 71206	IND FXD 100MHZ 600R
5007	4822 157 71206	IND FXD 100MHZ 600R
5008	4822 157 71206	IND FXD 100MHZ 600R
5010	4822 157 71206	IND FXD 100MHZ 600R
5011	4822 157 71206	IND FXD 100MHZ 600R
5300	4822 242 10757	X'TAL RESONATOR 33,868MHZ 20P

DIODES		
6002	4822 130 11397	BAS316
6003	4822 130 11397	BAS316
6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6006	4822 130 11397	BAS316
6007	4822 130 11397	BAS316
6008	4822 130 11397	BAS316

TRANSISTORS & INTEGRATED CIRCUITS		
7101	9322 186 11671	M5705
7102	9322 185 60671	SP3721AAA0PM
7104	4822 209 32073	MC34072D
7105	9965 000 19029	M29F002BT-70K1 with SW program
7107	9322 159 55668	K4S161622D-TC70
7109	9322 187 63668	BA5954FP
7110	4822 209 32073	MC34072D
7201	4822 130 11565	2SB1132
7202	4822 130 11565	2SB1132
7203	9340 547 13215	BSH103
7204	4822 130 42804	BC817-25
7205	4822 130 42804	BC817-25
7206	9340 547 13215	BSH103
7207	4822 130 42804	BC817-25
7208	9322 163 24668	L78M08CDT

Note: Only the parts mentioned in this list are normal service spare parts.

MONO-BE BOARD

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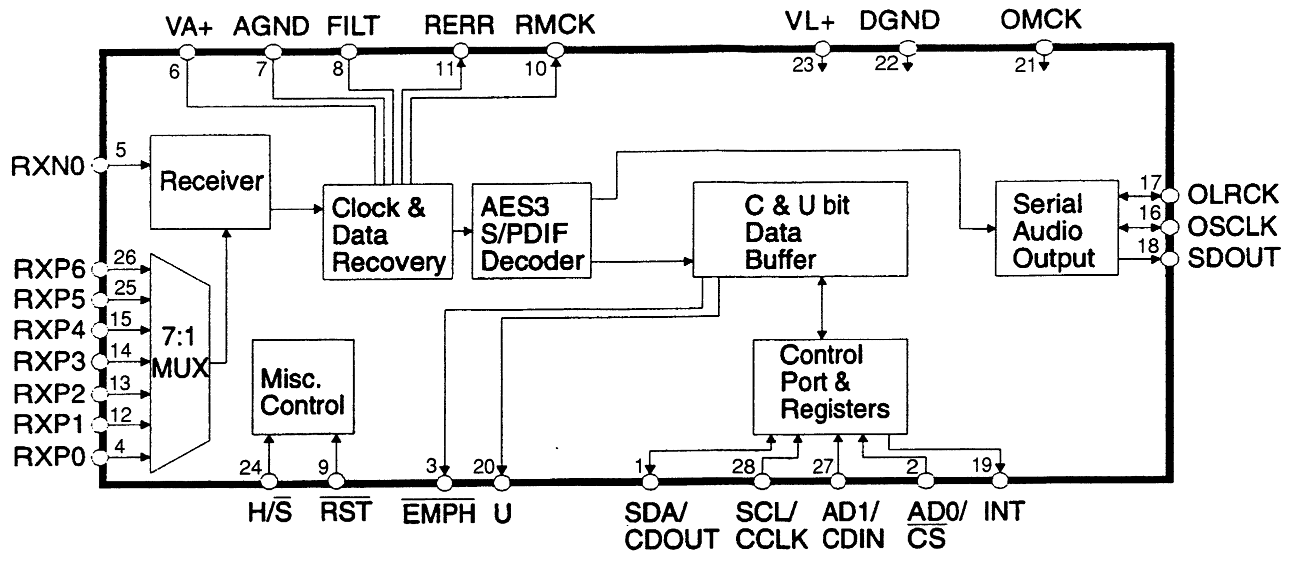
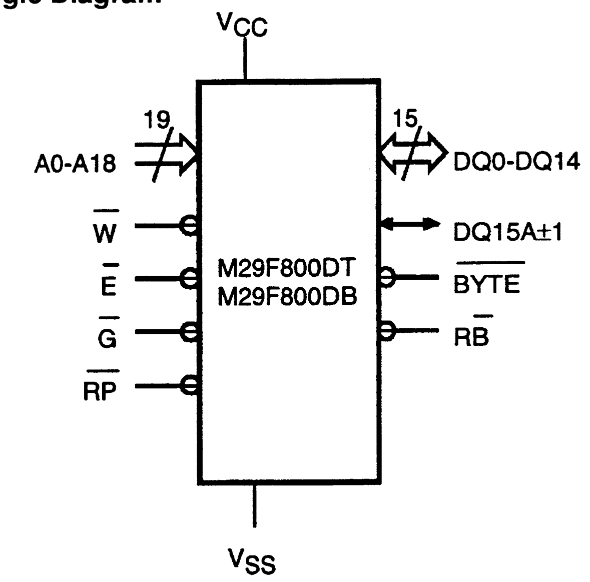
CS8415A



VA+
AGND
FILT
RERR
RMCK
VL+
DGND
OMCK
6
7
8
11
10
23
22
21
RXN0
5
Receiver
Clock & Data Recovery
AES3 S/PDIF Decoder
C & U bit Data Buffer
Serial Audio Output
17
16
18
OLRCK
OSCLK
SDOUT
RXP6
RXP5
RXP4
RXP3
RXP2
RXP1
RXP0
26
25
15
14
13
12
4
7:1 MUX
Misc. Control
Control Port & Registers
24
9
3
20
1
28
27
2
19
H/S
RST
EMPH
U
SDA/ CDOUT
SCL/ CCLK
AD1/ CDIN
AD0/ CS
INT

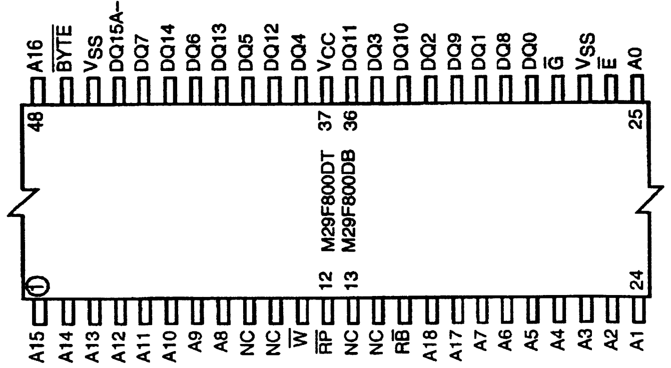
M29F800DT

Logic Diagram



VCC
A0-A18
19
15
DQ0-DQ14
DQ15A±1
W
E
G
RP
M29F800DT
M29F800DB
BYTE
RB
VSS

Pins connection

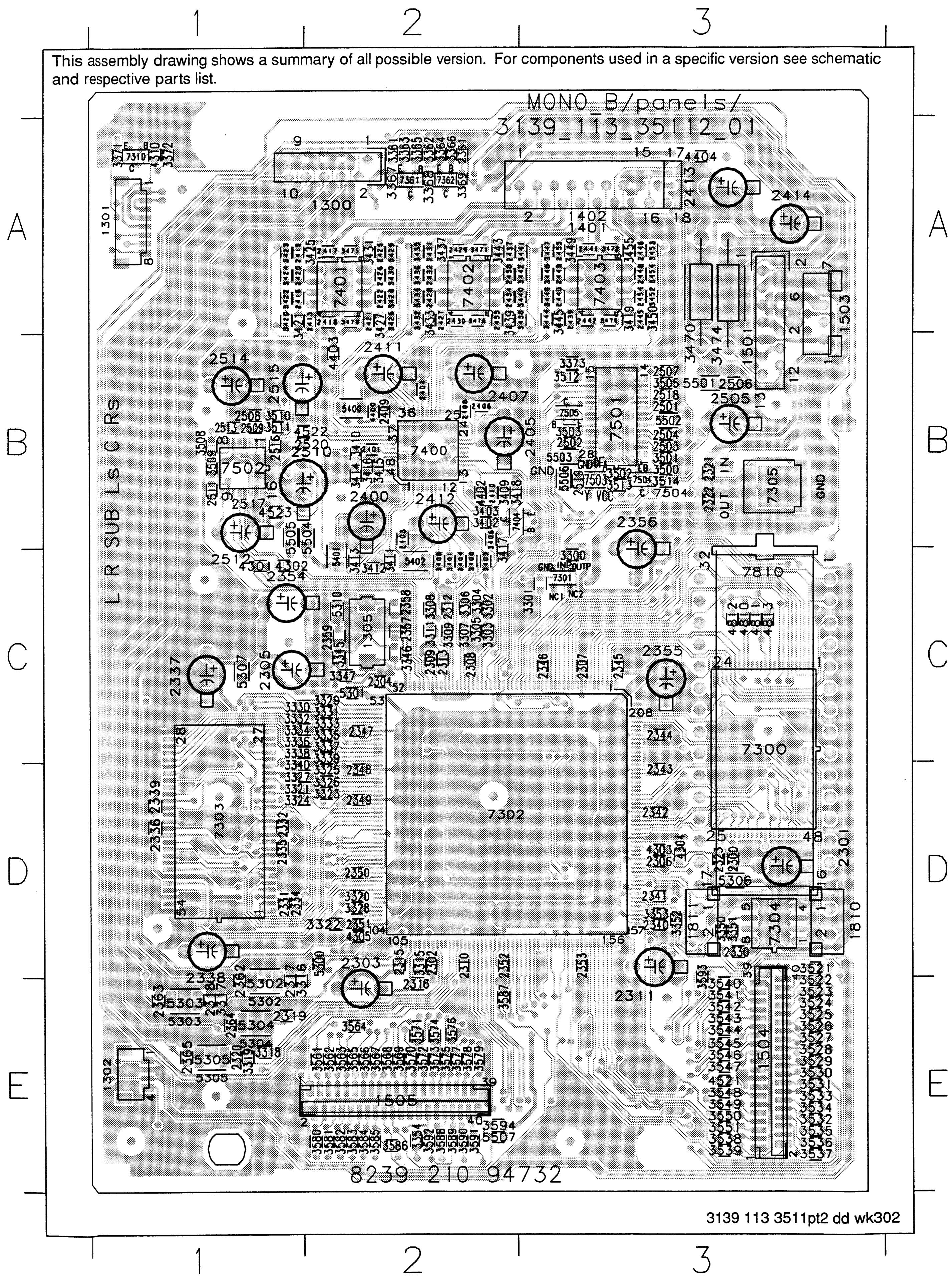


A16
BYTE
VSS
DQ15A–1
DQ7
DQ14
DQ6
DQ13
DQ5
DQ12
DQ4
VCC
DQ11
DQ3
DQ10
DQ2
DQ9
DQ1
DQ8
DQ0
G
VSS
E
A0
48
37
36
25
M29F800DT
M29F800DB
1
12
13
24
A15
A14
A13
A12
A11
A10
A9
A8
NC
NC
W
RP
NC
NC
RB
A18
A17
A7
A6
A5
A4
A3
A2
A1

Table 1. Signal Names

A0-A18	Address Inputs
DQ0-DQ7	Data Inputs/Outputs
DQ8-DQ14	Data Inputs/Outputs
DQ15A±1	Data Input/Output or Address Input
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{RP}$	Reset/Block Temporary Unprotect
$R\overline{B}$	Ready/Busy Output (not available on SO44 package)
$\overline{BYTE}$	Byte/Word Organization Select
V_{CC}	Supply Voltage
V_{SS}	Ground
NC	Not Connected Internally

OP VIEW - SMD & COMPONENT LAYOUT



This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

1300	A2
1301	A1
1302	E1
1305	C2
1401	A3
1402	A3
1501	B3
1503	A3
1504	E3
1505	E2
1810	D3
1811	D3
2300	D3
2301	D3
2302	D2
2303	D2
2304	C2
2305	C1
2306	D3
2307	C3
2308	C2
2309	C2
2310	D2
2311	E3
2312	C2
2313	C2
2315	D2
2316	E2
2317	E1
2318	E1
2319	E1
2320	E1
2321	B3
2322	B3
2323	D3
2330	D3
2331	D1
2332	D1
2334	D1
2335	D1
2336	D1
2337	C1
2338	E1
2339	D1
2340	D3
2341	D3
2342	D3
2343	D3
2344	C3
2345	C3
2346	C3
2347	C2
2348	D2
2349	D2
2350	D2
2351	D2
2352	D2
2353	D3
2354	C1
2355	C3
2356	B3
2357	C2
2358	C2
2359	C2
2361	A2
2362	E1
2363	E1
2364	E1
2365	E1
2400	B2
2401	B2
2403	B2
2404	B2
2405	B3
2406	B2
2407	B2
2408	B2
2409	B2
2410	B2
2411	B2
2412	B2
2413	A3
2414	A3
2415	A2
2416	A1
2417	A2
2418	A2
2419	A1
2420	A1
2421	A2
2422	A2
2425	A2
2426	A2
2427	A2
2428	A2
2429	A2
2430	A2
2431	A2
2432	A2
2433	A2
2434	A2
2437	A2
2438	A2
2439	A3
2440	A3
2441	A3
2442	A3
2443	A3
2445	A3
2446	A3
2448	A3
2454	A3
2455	A3
2501	B3
2502	B3
2503	B3
2504	B3
2505	B3
2506	B3
2507	B3
2508	B1
2509	B1
2510	B2
2511	B1
2512	C1
2513	B1
2514	B1
2515	B1
2516	B1
2517	B1
2518	B3
2519	B3
2520	B2
3300	C3
3301	C3
3302	C2
3303	C2
3304	C2
3305	C2
3306	C2
3307	C2
3308	C2
3309	C2
3311	C2
3315	D2
3316	E1
3317	E1
3318	E1
3319	E1
3320	D2
3321	D1
3322	D2
3323	D2
3324	D1
3325	D2
3326	D2
3327	D1
3328	D2
3329	C2
3330	C1
3331	C2
3332	C1
3333	C2
3334	C1
3335	C2
3336	C1
3337	C2
3338	C1
3339	C2
3340	D1
3345	C2
3346	C2
3347	C2
3350	D3
3351	D3
3352	D3
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3362	A2
3363	A2
3364	A2
3365	A2
3366	A2
3367	A2
3368	A2
3369	A2
3371	A1
3372	A1
3373	B3
3400	C2
3401	C2
3402	B2
3403	B2
3404	C2
3405	C2
3406	B2
3408	C2
3409	B2
3410	B2
3411	C2
3412	C2
3413	C2
3414	B2
3415	B2
3416	B2
3417	C2
3418	B2
3419	A3
3420	A1
3421	A1
3422	A1
3423	A1
3424	A1
3425	A2
3426	A2
3427	A2
3428	A2
3429	A2
3430	A2
3431	A2
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3438	A3
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3454	A3
3455	A3
3470	B3
3471	A2
3472	A3
3474	B3
3475	A2
3476	A2
3478	A2
3479	A3
3500	B3
3501	B3
3502	B3
3503	B3
3505	B3
3508	B1
3509	B1
3510	B1
3511	B1
3512	B3
3513	B3
3514	B3
3521	D3
3522	E3
3523	E3
3524	E3
3525	E3
3526	E3
3527	E3
3528	E3
3529	E3
3530	E3
3531	E3
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3538	E3
3539	E3
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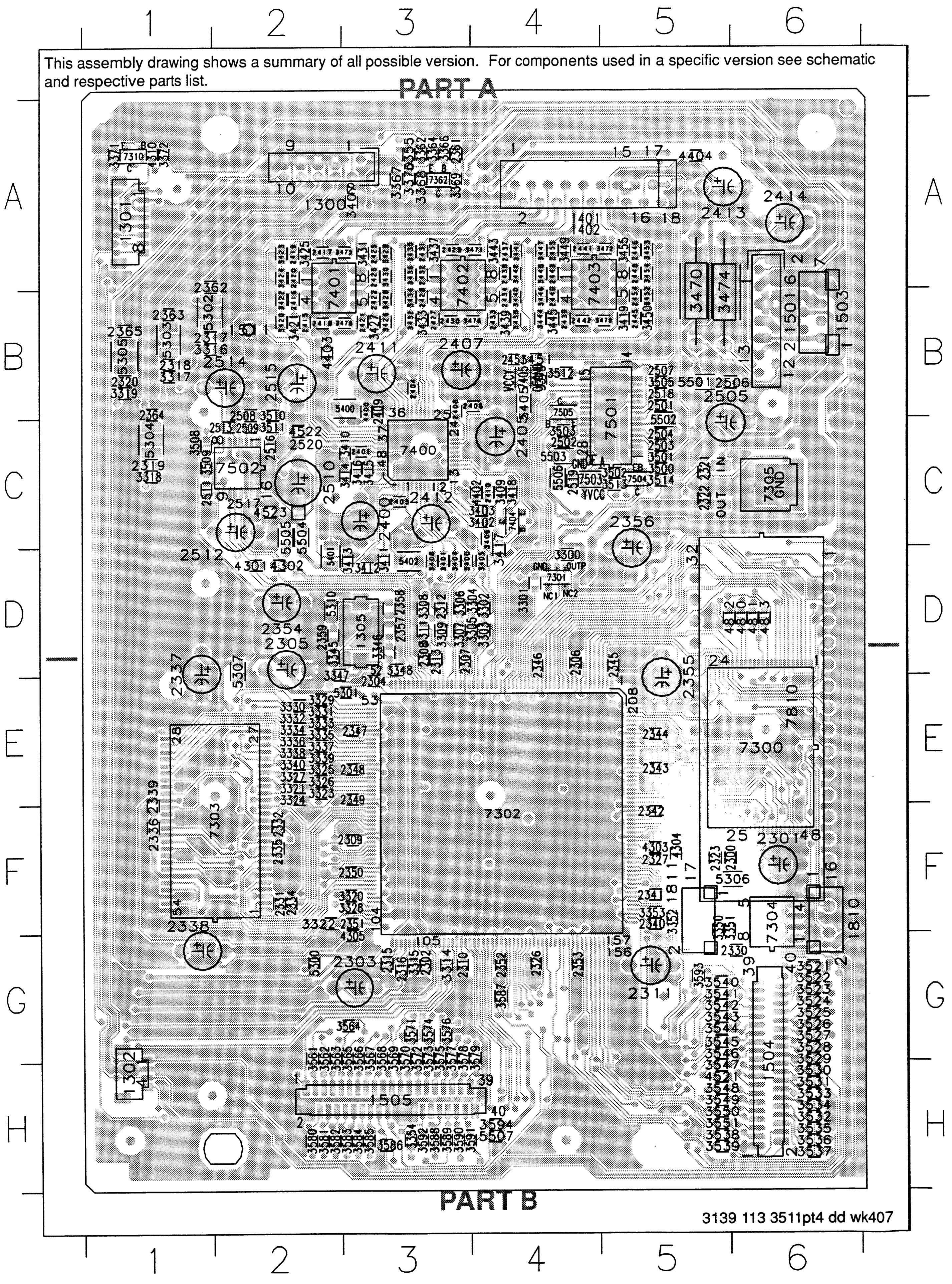
3572	E2
3573	E2
3574	E2
3575	E2
3576	E2
3577	E2
3578	E2
3579	E2
3580	E2
3581	E2
3582	E2
3583	E2
3584	E2
3585	E2
3586	E2
3587	E2
3588	E2
3589	E2
3590	E2
3591	E2
3592	E2
3593	E3
3594	E2
4301	C1
4302	C1
4303	D3
4304	D3
4305	D2
4310	A1
4400	B2
4402	B2
4403	B2
4404	A3
4521	E3
4522	B2
4523	B1
4810	C3
4811	C3
4812	C3
4813	C3
5300	D2
5301	C2
5302	E1
5303	E1
5304	E1
5305	E1
5306	D3
5307	C1
5310	C2
5400	B2
5401	C2
5402	C2
5501	B3
5502	B3
5503	B3
5504	B2
5505	B1
5506	B3
5507	E2
7300	C3
7301	C3
7302	C2
7303	C1
7304	D3
7305	B3
7310	A1
7361	A2
7362	A2
7400	B2
7401	A2
7402	B2
7403	B3
7404	B3
7501	B3
7502	B1
7503	B3
7504	B3
7505	B3
7810	C3

TOP VIEW - SMD & COMPONENT LAYOUT (pc board ... 3511p4)

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.



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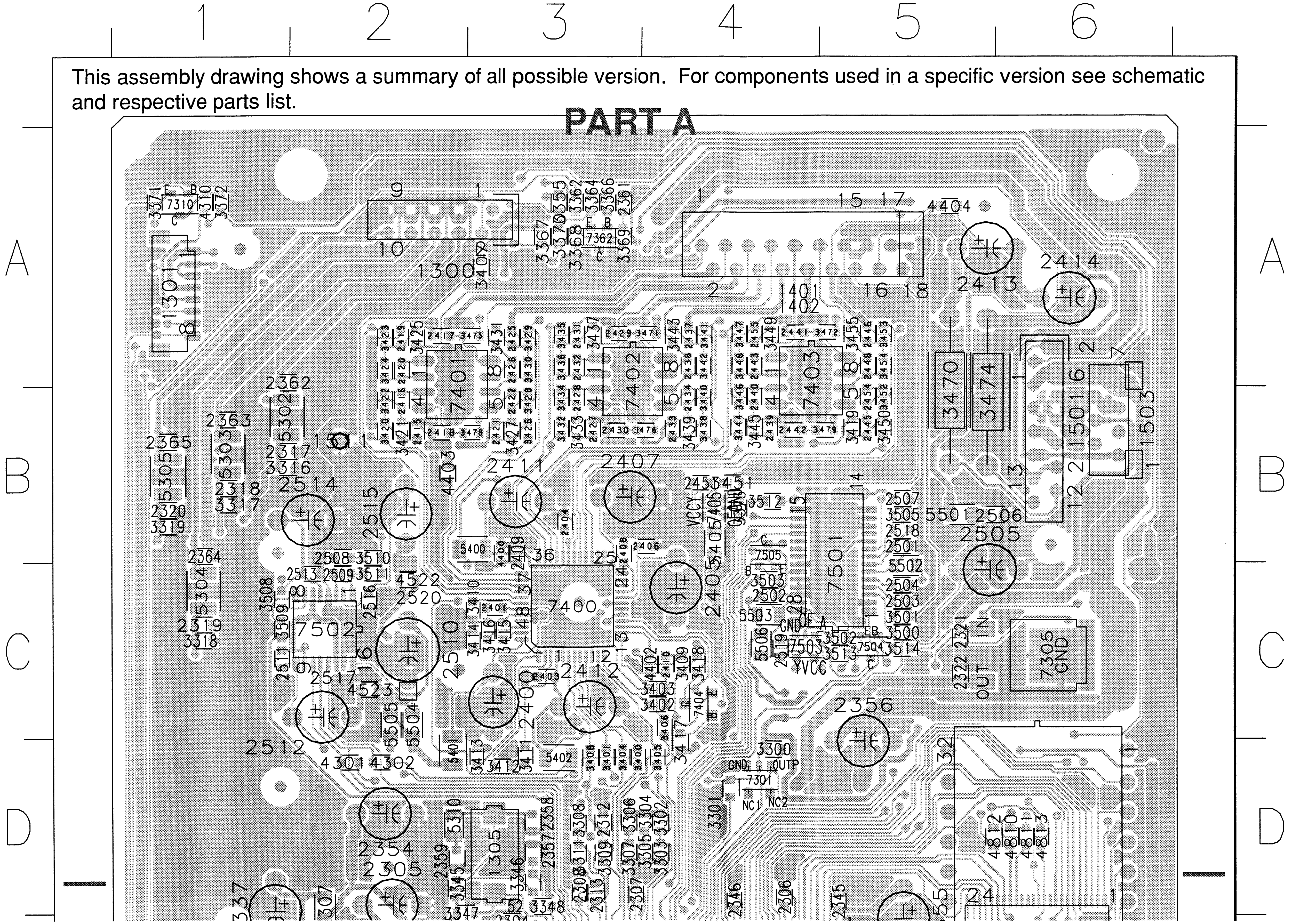
1302	H1	2410	C4	3326	E2	3444	B4	3577	G3
1305	D3	2411	B3	3327	E2	3445	B4	3578	G3
1401	A4	2412	C3	3328	F3	3446	B4	3579	G4
1402	A4	2413	A5	3329	E2	3447	A4	3580	H2
1501	B6	2414	A6	3330	E2	3448	A4	3581	H2
1503	B6	2415	B2	3331	E2	3449	A4	3582	H2
1504	H6	2416	B2	3332	E2	3450	B5	3583	H3
1505	H3	2417	A2	3333	E2	3451	B4	3584	H3
1511	B2	2418	B2	3334	E2	3452	B5	3585	H3
1810	F6	2419	A2	3335	E2	3453	A5	3586	H3
1811	F5	2420	A2	3336	E2	3454	A5	3587	G4
2300	F5	2421	B3	3337	E2	3455	A5	3588	H3
2301	F6	2422	B3	3338	E2	3470	B5	3589	H3
2302	G3	2425	A3	3339	E2	3471	A4	3590	H3
2303	G3	2426	A3	3340	E2	3472	A5	3591	H3
2304	E3	2427	B3	3345	D2	3474	B5	3592	H3
2305	D2	2428	B3	3346	D3	3475	A3	3593	G5
2306	D4	2429	A3	3347	D2	3476	B4	3594	H4
2307	D3	2430	B3	3348	D3	3478	B3	4301	D2
2308	D3	2431	A3	3350	F5	3479	B5	4302	D2
2309	F3	2432	A3	3351	F5	3500	C5	4303	F5
2310	G3	2433	B4	3352	F5	3501	C5	4304	F5
2311	G5	2434	B4	3353	F5	3502	C5	4305	G3
2312	D3	2437	A4	3354	H3	3503	C4	4310	A1
2313	D3	2438	A4	3355	A3	3505	B5	4400	B3
2315	G3	2439	B4	3362	A3	3508	C1	4402	C4
2316	G3	2440	B4	3364	A3	3509	C1	4403	B2
2317	B1	2441	A4	3366	A3	3510	B2	4404	A5
2318	B1	2442	B4	3367	A3	3511	C2	4521	H5
2319	C1	2443	A4	3368	A3	3512	B4	4522	C2
2320	B1	2445	B5	3369	A3	3513	C5	4523	C2
2321	C5	2446	A5	3370	A3	3514	C5	4810	D6
2322	C5	2448	A5	3371	A1	3521	G6	4811	D6
2323	F5	2451	B4	3372	A1	3522	G6	4812	D5
2326	G4	2454	B5	3373	B4	3523	G6	4813	D6
2327	F5	2455	A4	3400	D3	3524	G6	5300	G2
2330	G6	2501	B5	3401	D3	3525	G6	5301	E3
2331	F2	2502	C4	3402	C4	3526	G6	5302	B1
2332	F2	2503	C5	3403	C4	3527	G6	5303	B1
2334	F2	2504	C5	3404	D3	3528	G6	5304	C1
2335	F2	2505	B5	3405	D4	3529	G6	5305	B1
2336	F1	2506	B6	3406	C4	3530	H6	5306	F6
2337	D1	2507	B5	3407	A3	3531	H6	5307	D2
2338	F1	2508	B2	3408	D3	3532	H6	5310	D2
2339	E1	2509	C2	3409	C4	3533	H6	5400	B3
2340	F5	2510	C2	3410	C3	3534	H6	5401	D2
2341	F5	2511	C1	3411	D3	3535	H6	5402	D3
2342	F5	2512	D1	3412	D3	3536	H6	5405	B4
2343	E5	2513	C2	3413	D3	3537	H6	5501	B5
2344	E5	2514	B2	3414	C3	3538	H5	5502	C5
2345	D5	2515	B2	3415	C3	3539	H5	5503	C4
2346	D4	2516	C2	3416	C3	3540	G5	5504	C2
2347	E3	2517	C2	3417	D4	3541	G5	5505	C2
2348	E3	2518	B5	3418	C4	3542	G5	5506	C4
2349	E3	2519	C4	3419	B5	3543	G5	5507	H4
2350	F3	2520	C2	3420	B2	3544	G5	7300	E6
2351	F3	3300	D4	3421	B2	3545	G5	7301	D4
2352	G4	3301	D4	3422	B2	3546	G5	7302	F4
2353	G4	3302	D4	3423	A2	3547	H5	7303	F2
2354	D2	3303	D4	3424	A2	3548	H5	7304	F6
2355	E5	3304	D4	3425	A2	3549	H5	7305	C6
2356	C5	3305	D4	3426	B3	3550	H5	7310	A1
2357	D3	3306	D3	3427	B3	3551	H5	7362	A3
2358	D3	3307	D3	3428	B3	3561	G2	7400	C3
2359	D2	3308	D3	3429	A3	3562	G2	7401	A2
2361	A3	3309	D3	3430	A3	3563	G2	7402	A3
2362	A1	3311	D3	3431	A3	3564	G3	7403	A4
2363	B1	3314	G3	3432	B3	3565	G3	7404	C4
2364	B1	3315	G3	3433	B3	3566	G3	7405	B4
2365	B1	3316	B1	3434	B3	3567	G3	7501	C5
2400	C3	3317	B1	3435	A3	3568	G3	7502	C2
2401	C3	3318	C1	3436	A3	3569	G3	7503	C4
2403	C3	3319	B1	3437	A3	3570	G3	7504	C5
2404	B3	3320	F3	3438	B4	3571	G3	7505	B4
2405	C4	3321	E2	3439	B4	3572	G3	7810	E6
2406	B4	3322	F2	3440	B4	3573	G3		
2407	B3	3323	E2	3441	A4	3574	G3		

OP VIEW - SMD & COMPONENT LAYOUT (pc board ... 3511p4) PART A

This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.


1
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3
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A
B
C
D
PART A
1300
1301
1305
1401
1402
1501
1503
15016
7301
7305
GND
7310
7362
7400
7401
7402
7403
7404
7405
7502
7503
7505
7501
7504
3470
3474
2400
2405
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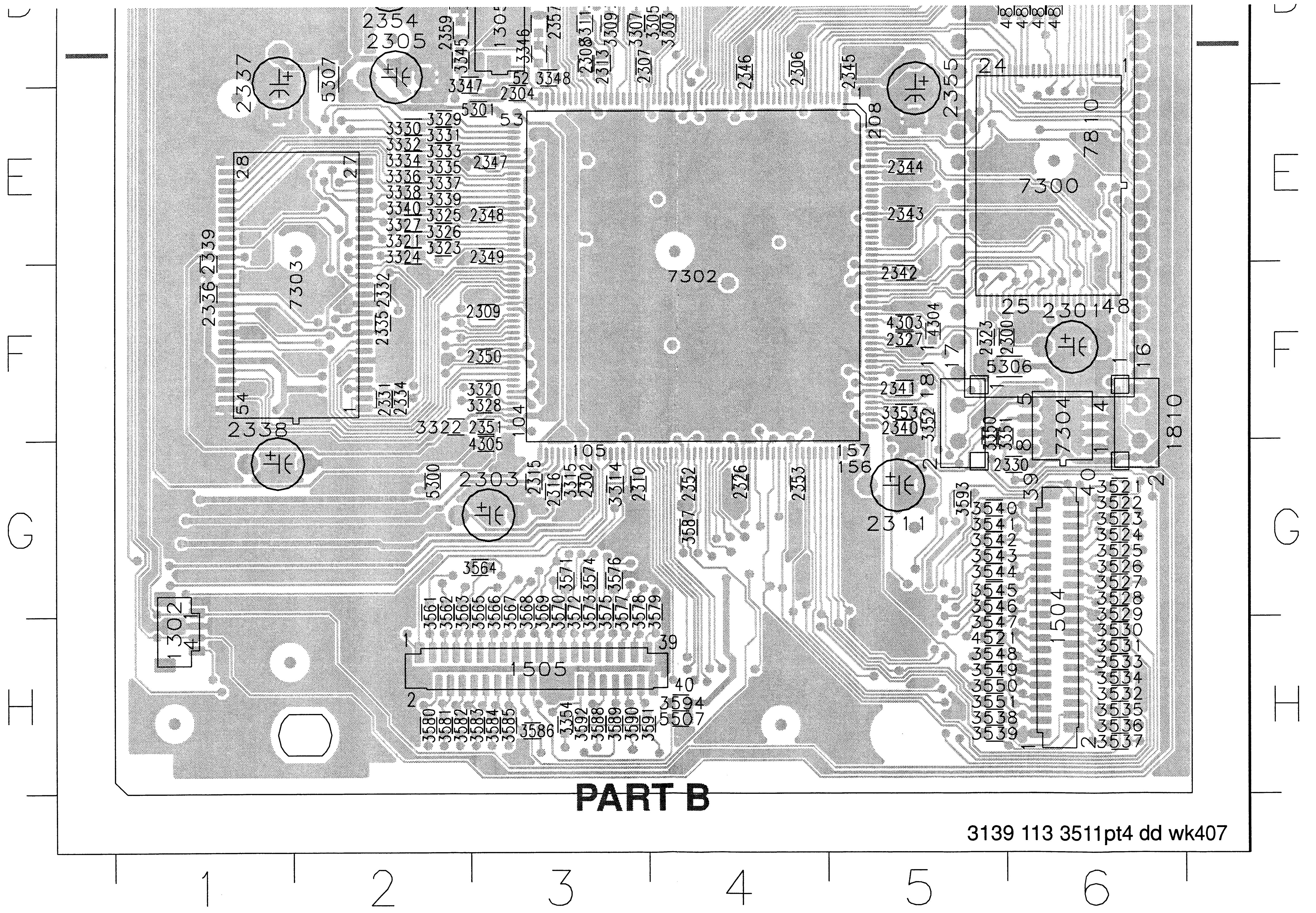
2517
2520
2354
2305
2356
4404
4403
4522
4523
4301
4302
5400
5401
5402
5501
5502
5503
5504
5505
5506
3300
3301
VCCY
YVCC
OUT
IN
GND
OUTP
NC1
NC2
4812
4810
4811
4813

TOP VIEW - SMD & COMPONENT LAYOUT (pc board ... 3511p4) PART B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3307
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3305
3303
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5307
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3348
2304
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2306
2345
2355
24
1
5301
53
208
7810
3329
3330
3331
3332
3333
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3335
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2339
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7303
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2309
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3320
3328
104
3322
2351
4305
2331
2334
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1
2338
2344
2343
7300
7302
2342
25
2301
48
4303
4304
2327
17
2323
2300
5306
16
2341
18
1
3353
3352
2340
3350
3351
5
4
8
7304
1810
1
157
156
105
2
2330
39
40
2
5300
2303
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2302
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2326
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3587
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39
1505
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3594
5507
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3585
3586
3354
3592
3588
3589
3590
3591
1302
4
1
PART B
3139 113 3511pt4 dd wk407
E
F
G
H
1
2
3
4
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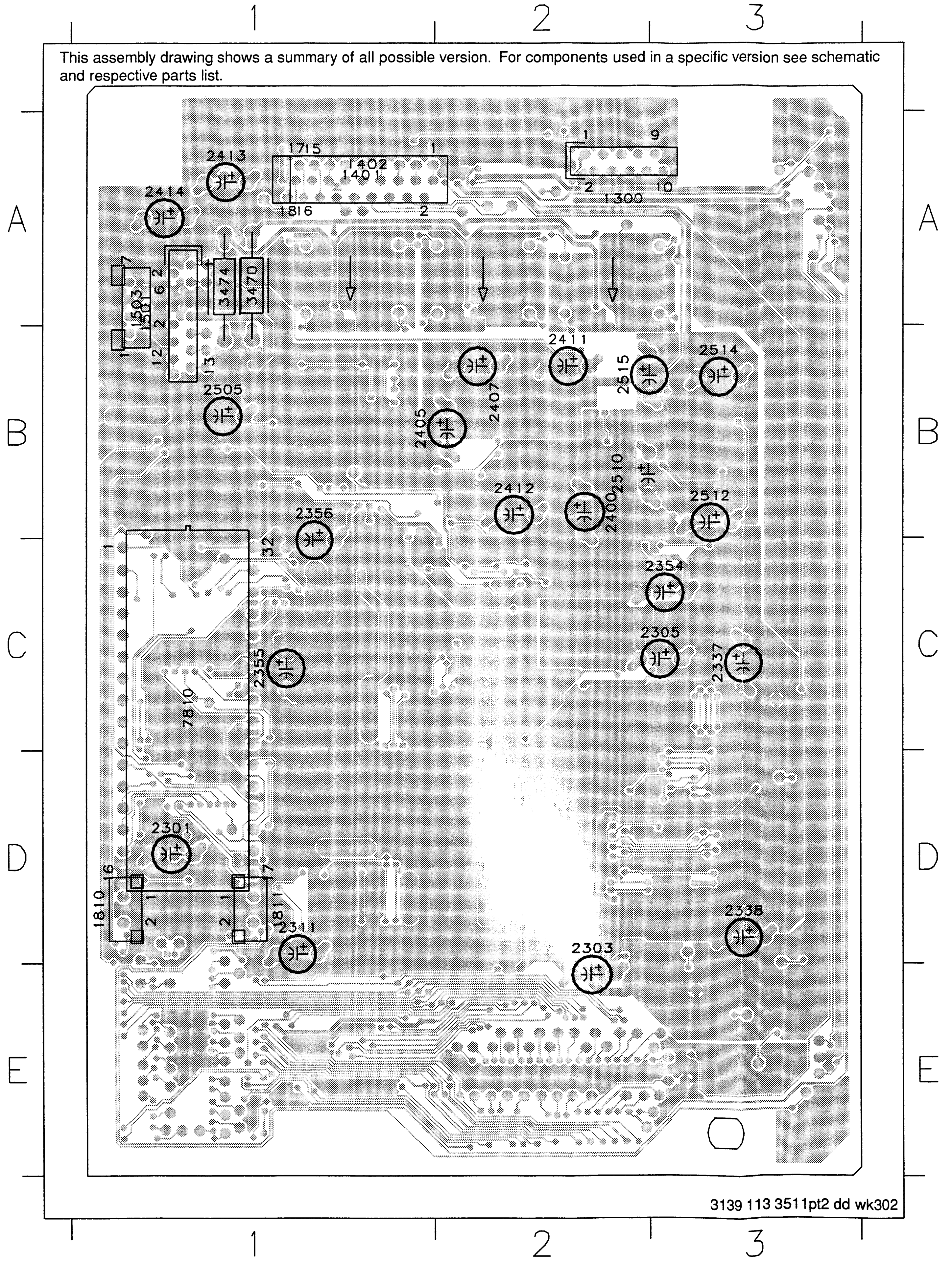
6

BOTTOM VIEW - COMPONENT LAYOUT

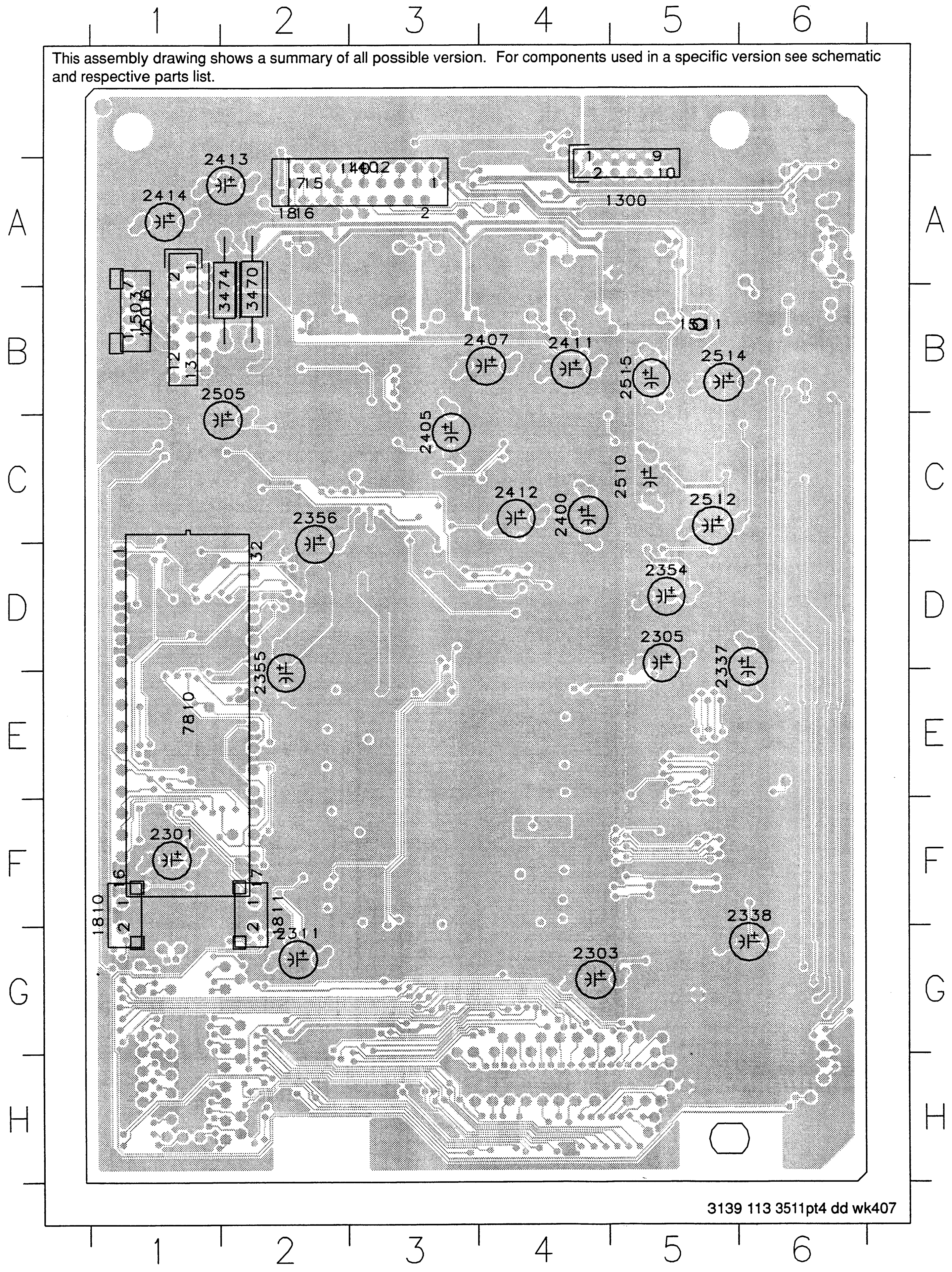


This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

1
2
3
A
B
C
D
E
1715
1402
1401
1816
1300
2413
2414
1503
1501
3474
3470
2505
2411
2407
2405
2515
2514
2510
2412
2400
2512
2356
2354
2305
2337
2355
7810
2301
1810
1811
2311
2303
2338
3139 113 3511pt2 dd wk302

1300	A2
1401	A1
1402	A1
1501	A1
1503	A1
1810	D1
1811	D1
2301	D1
2303	D2
2305	C3
2311	D1
2337	C3
2338	D3
2354	C3
2355	C1
2356	B1
2400	B2
2405	B1
2407	B2
2411	B2
2412	B2
2413	A1
2414	A1
2505	B1
2510	B2
2512	B3
2514	B3
2515	B2
3470	A1
3474	A1
7810	C1

BOTTOM VIEW - COMPONENT LAYOUT (pc board ... 3511p4)


This assembly drawing shows a summary of all possible version. For components used in a specific version see schematic and respective parts list.

3139 113 3511pt4 dd wk407

1
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2413
2414
1401
1402
1715
1816
1300
1503
1501
3474
3470
1511
2407
2411
2515
2514
2505
2405
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2412
2400
2512
2356
2354
2305
2337
2355
7810
2301
1810
1811
2311
2338
2303

1300	A5
1401	A3
1402	A3
1501	B1
1503	B1
1511	B5
1810	F1
1811	F2
2301	F1
2303	G4
2305	D5
2311	G2
2337	D5
2338	F6
2354	D5
2355	E2
2356	C2
2400	C4
2405	C3
2407	B4
2411	B4
2412	C4
2413	A2
2414	A1
2505	B2
2510	C5
2512	C5
2514	B5
2515	B5
3470	B2
3474	B2
7810	E1

IRCUIT DIAGRAM 1

1300	C14
1301	I10
1302	I14
1305	I9
1810	I1
1811	I2
2300	B2
2301	B2
2302	A5
2303	A5
2304	B5
2305	B5
2306	A8
2307	A8
2308	A8
2309	B8
2310	B8
2311	B8
2312	B9
2313	B9
2315	D9
2316	D9
2317	D10
2318	D10
2319	D11
2320	D11
2321	A9
2322	A10
2323	E3
2330	I12
2331	H11
2332	H11
2334	H11
2335	H11
2336	H11
2337	H11
2338	H11
2339	E14
2340	A4
2341	A5
2342	A5
2343	A5
2344	A5
2345	A6
2346	A6
2347	A6
2348	A7
2349	A7
2350	A7
2351	A7
2352	A8
2353	A8
2354	A8
2355	A9
2356	A9
2357	I8
2358	I9
2359	I9
2361	C14
2362	D13
2363	D13
2364	D12
2365	D12
3300	A4
3301	B5
3302	B9
3303	B10
3304	B10
3305	B10
3306	B10
3307	B11
3308	B11
3309	B9
3311	B11
3315	D9
3316	D10
3317	D10
3318	D10
3319	D11
3320	D9
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3322	E9
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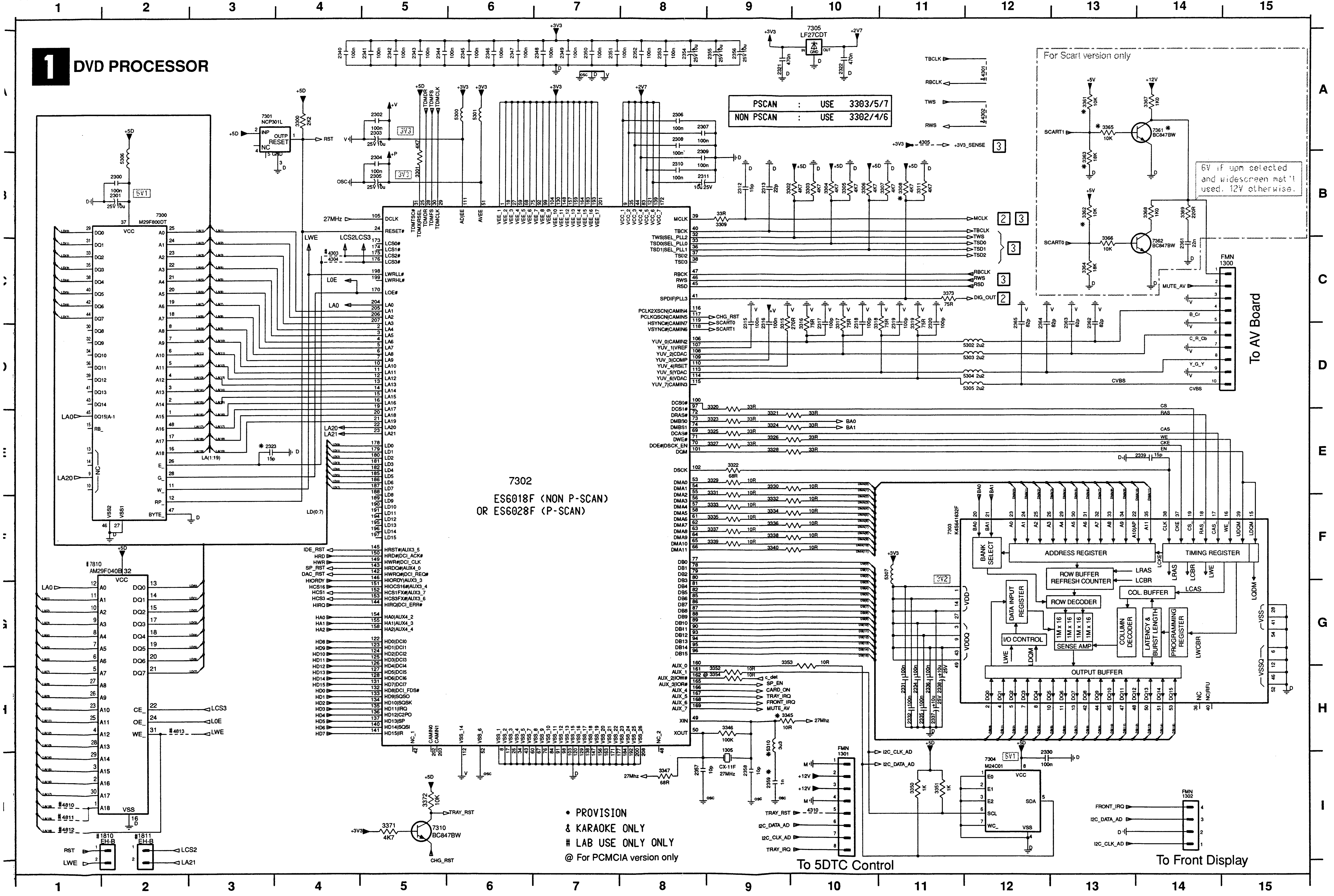
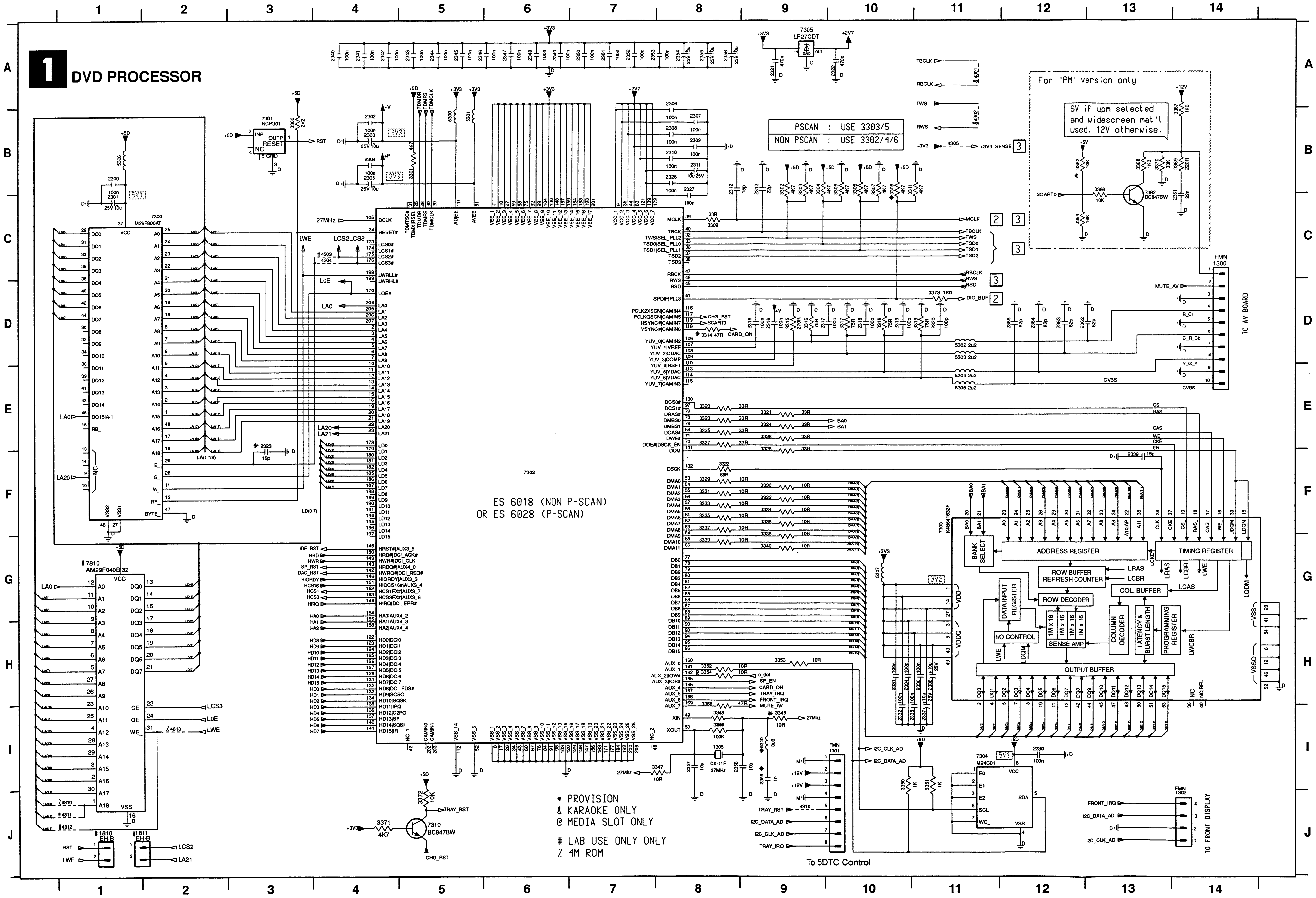
3325	E9
3326	E9
3327	E9
3328	E9
3329	E9
3330	E9
3331	E9
3332	F9
3333	F9
3334	F9
3335	F9
3336	F9
3337	F9
3338	F9
3339	F9
3340	F9
3345	H9
3346	H9
3347	I8
3350	I11
3351	I11
3352	H9
3353	G9
3354	H9
3361	A13
3362	B13
3363	B13
3364	C13
3365	A13
3366	C13
3367	A14
3368	B14
3369	B14
3371	I5
3372	I5
3373	C11
4301	A12
4302	A12
4303	C4
4304	C4
4305	A11
4310	I10
4810	I1
4811	I1
4812	I1
4813	H2
5300	A6
5301	A6
5302	D12
5303	D12
5304	D12
5305	D12
5306	B2
5307	F11
5310	H9
7300	B2
7301	A3
7302	E7
7304	I12
7305	A10
7310	I5
7361	A14
7362	C14
7810	F1


1
DVD PROCESSOR
7300
M29F800DT
7810
AM29F040B
7301
NCP301L
RESET
RST
7302
ES6018F (NON P-SCAN)
OR ES6028F (P-SCAN)
7305
LF27CDT
PSCAN : USE 3303/5/7
NON PSCAN : USE 3302/4/6
For Scart version only
SCART1
SCART0
7361 BC847BW
7362 BC847BW
6V if upm selected and widescreen mat'l used. 12V otherwise.
FMN 1300
To AV Board
MUTE_AV
B_Cr
C_R_Cb
Y_G_Y
CVBS
7303
K4S641632F
BANK SELECT
ADDRESS REGISTER
TIMING REGISTER
ROW BUFFER REFRESH COUNTER
ROW DECODER
COL. BUFFER
DATA INPUT REGISTER
I/O CONTROL
1M x 16
SENSE AMP
COLUMN DECODER
LATENCY & BURST LENGTH
PROGRAMMING REGISTER
OUTPUT BUFFER
7304
M24C01
FMN 1301
To 5DTC Control
TRAY_RST
I2C_DATA_AD
I2C_CLK_AD
TRAY_IRQ
FMN 1302
FRONT_IRQ
To Front Display
7310
BC847BW
CHG_RST
1305
CX-11F
27MHz
1810 EH-B
1811 EH-B
RST
LWE
LCS2
LA21
• PROVISION
& KARAOKE ONLY
# LAB USE ONLY ONLY
@ For PCMCIA version only
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I

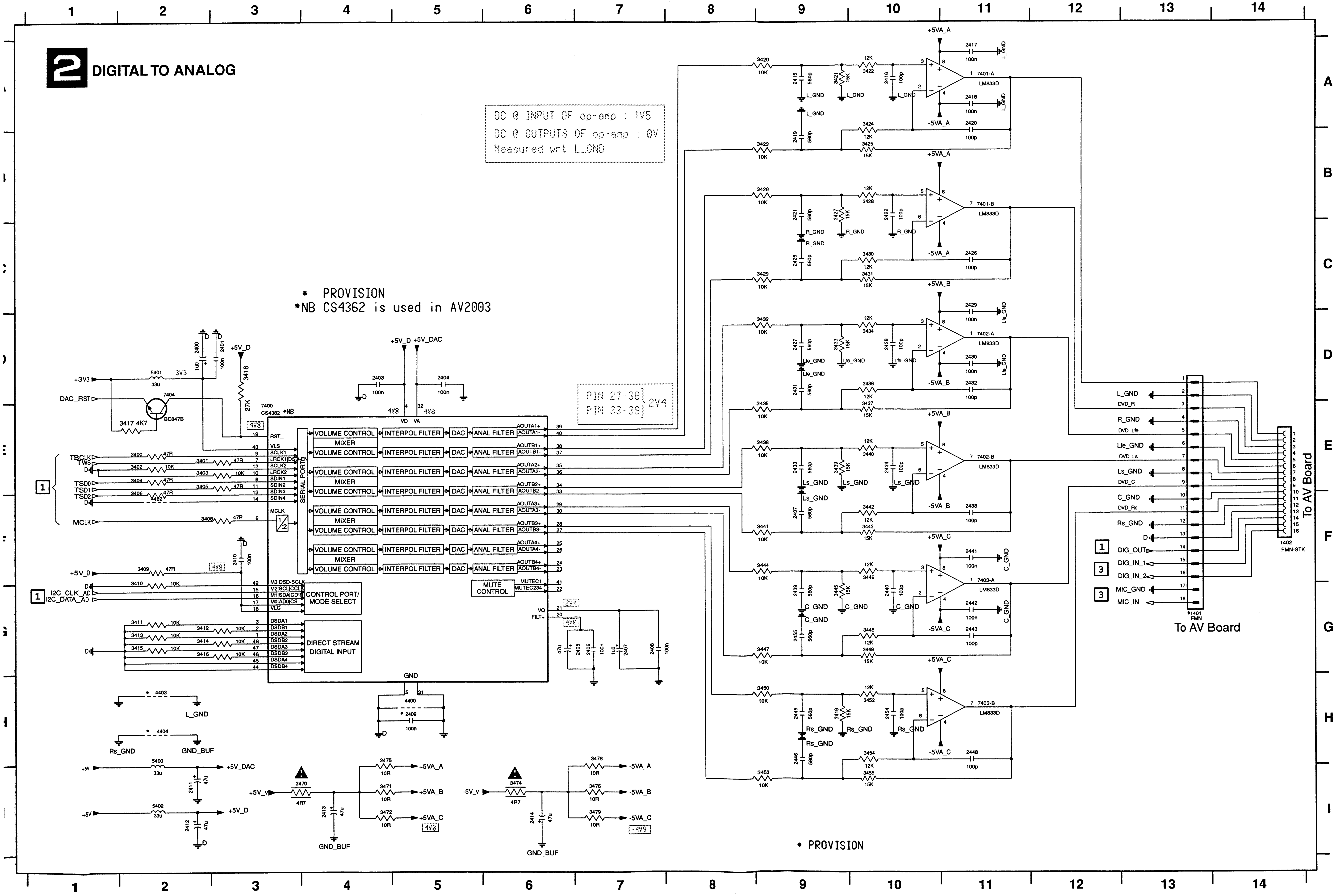
CIRCUIT DIAGRAM 1 (For pc board ... 3511p4)


1 DVD PROCESSOR
7300 M29F800AT
7301 NCP301
7302
ES 6018 (NON P-SCAN)
OR ES 6028 (P-SCAN)
7303 K4S641632F
7304 M24C01
7305 LF27CDT
7310 BC847BW
7362 BC847BW
7810 AM29F040B
1300 FMN TO AV BOARD
1301 FMN To 5DTC Control
1302 FMN TO FRONT DISPLAY
1305 CX-11F 27MHz
PSCAN : USE 3303/5
NON PSCAN : USE 3302/4/6
For 'PM' version only
6V if upm selected and widescreen mat'l used. 12V otherwise.
BANK SELECT
ADDRESS REGISTER
TIMING REGISTER
ROW BUFFER REFRESH COUNTER
ROW DECODER
COL. BUFFER
DATA INPUT REGISTER
I/O CONTROL
SENSE AMP
COLUMN DECODER
LATENCY & BURST LENGTH
PROGRAMMING REGISTER
OUTPUT BUFFER
* PROVISION
& KARAOKE ONLY
@ MEDIA SLOT ONLY
# LAB USE ONLY ONLY
% 4M ROM
1810 EH-B
1811 EH-B
MCLK
TBCLK
RBCLK
RWS
TWS
MUTE_AV
CVBS
DIG_BUF
27MHz
TRAY_RST
CHG_RST
I2C_CLK_AD
I2C_DATA_AD
FRONT_IRQ
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J

1300	C14
1301	I10
1302	J14
1305	I8
1810	J1
1811	J1
2300	B1
2301	C1
2302	B4
2303	B4
2304	B4
2305	B4
2306	A8
2307	B8
2308	B8
2309	B8
2310	B8
2311	B8
2312	B8
2313	B9
2315	D9
2316	D9
2317	D9
2318	D10
2319	D10
2320	D11
2321	A9
2322	A10
2323	E3
2326	B8
2327	B8
2330	I12
2331	H10
2332	I10
2334	H10
2335	I11
2336	H11
2337	I11
2338	H11
2339	F13
2340	A4
2341	A4
2342	A4
2343	A5
2344	A5
2345	A5
2346	A5
2347	A6
2348	A6
2349	A6
2350	A7
2351	A7
2352	A7
2353	A7
2354	A8
2355	A8
2356	A8
2357	I8
2358	I8
2359	I9
2361	C14
2362	D12
2363	D12
2364	D12
2365	D12
3300	B3
3301	B5
3302	B9
3303	B9
3304	B9
3305	B10
3306	B10
3307	B10
3308	B10
3309	C8
3311	B10
3314	D8
3315	D9
3316	D9
3317	D10
3318	D10
3319	D11
3320	E8
3321	E9
3322	F8
3323	E8
3324	E9
3325	E8
3326	E9
3327	E8
3328	F9
3329	F8
3330	F9
3331	F8
3332	F9
3333	F8
3334	F9
3335	F8
3336	F9
3337	F8
3338	G9
3339	G8
3340	G9
3345	I9
3346	I8
3347	I8
3348	I8
3350	I10
3351	I11
3352	H8
3353	H9
3354	H8
3355	I8
3362	B12
3364	C12
3366	B13
3367	B14
3368	B13
3369	B14
3370	B13
3371	J4
3372	J5
3373	D11
4301	A11
4302	B11
4303	C4
4304	C4
4305	B11
4310	J9
4810	J1
4811	J1
4812	J1
4813	I2
5300	B5
5301	B5
5302	D11
5303	D11
5304	E11
5305	E11
5306	B1
5307	G10
5310	I9
7300	C2
7301	B3
7302	F6
7304	I11
7305	A9
7310	J5
7362	C13
7810	G1

IRCUIT DIAGRAM 2

1401	G13
1402	F14
2400	D2
2401	D3
2403	D4
2404	D5
2405	G7
2406	G7
2407	G7
2408	G7
2409	H5
2410	F3
2411	I2
2412	I2
2413	I4
2414	I6
2415	A9
2416	A10
2417	A11
2418	A11
2419	B9
2420	A11
2421	B9
2422	B10
2425	C9
2426	C11
2427	D9
2428	D10
2429	C11
2430	D11
2431	D9
2432	D11
2433	E9
2434	E10
2437	F9
2438	F11
2439	G9
2440	G10
2441	F11
2442	G11
2443	G11
2445	H9
2446	H9
2448	H11
2454	H10
2455	G9
3400	E2
3401	E2
3402	E2
3403	E2
3404	E2
3405	E2
3406	F2
3408	F2
3409	F2
3410	F2
3411	G2
3412	G2
3413	G2
3414	G2
3415	G2
3416	G2
3417	E2
3418	D3
3419	H9
3420	A9
3421	A9
3422	A10
3423	B9
3424	A10
3425	B10
3426	B9
3427	B9
3428	B10
3429	C9
3430	C10
3431	C10
3432	D9
3433	D9
3434	D10
3435	E9
3436	D10
3437	E10
3438	E9
3439	E9
3440	E10
3441	F9
3442	F10
3443	F10
3444	F9
3445	G9
3446	F10
3447	G9
3448	G10
3449	G10
3450	H9
3452	H10
3453	I9
3454	H10
3455	I10
3470	I4
3471	I4
3472	I4
3474	I6
3475	H4
3476	I7
3478	H7
3479	I7
4400	H5
4402	F2
4403	H2
4404	H2
5400	H2
5401	D2
5402	I2
7401-A	A11
7401-B	B11
7402-A	D11
7402-B	E11
7403-A	F11
7403-B	H11
7404	D2


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
+5VA_A
+5VA_B
+5VA_C
-5VA_A
-5VA_B
-5VA_C
7401-A
7401-B
7402-A
7402-B
7403-A
7403-B
LM833D
L_GND
R_GND
Lfe_GND
Ls_GND
C_GND
Rs_GND
10K
12K
15K
560p
100p
100n
+3V3
3V3
5401
33u
DAC_RST
3417 4K7
7404
BC847B
+5V_D
3418
27K
2400
2401
1u0
+5V_D
+5V_DAC
2403
2404
4V8
VD
VA
7400
CS4382
*NB
RST_
VLS
SCLK1
LRCK1|DSD
SCLK2
LRCK2
SDIN1
SDIN2
SDIN3
SDIN4
MCLK
SERIAL PORT
VOLUME CONTROL
MIXER
INTERPOL FILTER
DAC
ANAL FILTER
AOUTA1+
AOUTA1-
AOUTB1+
AOUTB1-
AOUTA2+
AOUTA2-
AOUTB2+
AOUTB2-
AOUTA3+
AOUTA3-
AOUTB3+
AOUTB3-
AOUTA4+
AOUTA4-
AOUTB4+
AOUTB4-
MUTE CONTROL
MUTEC1
MUTEC234
VQ
FILT+
GND
2V4
TBCLK
TWS
TSD0
TSD1
TSD2
MCLK
47R
10K
+5V_D
I2C_CLK_AD
I2C_DATA_AD
M3|DSD-SCLK
M2|SCL|CCLK
M1|SDA|CDIN
M0|AD0|CS_
VLC
CONTROL PORT/ MODE SELECT
DSDA1
DSDB1
DSDA2
DSDB2
DSDA3
DSDB3
DSDA4
DSDB4
DIRECT STREAM DIGITAL INPUT
2405
2406
2407
2408
47u
4400
2409
4403
4404
L_GND
Rs_GND
GND_BUF
+5V
5400
5402
33u
+5V_DAC
2411
2412
+5V_v
3470
4R7
2413
3475
3471
3472
10R
+5VA_A
+5VA_B
+5VA_C
-5V_v
3474
2414
3478
3476
3479
-5VA_A
-5VA_B
-5VA_C
-4V9
GND_BUF
L_GND
DVD_R
R_GND
DVD_Lfe
Lfe_GND
DVD_Ls
Ls_GND
DVD_C
C_GND
DVD_Rs
Rs_GND
DIG_OUT
DIG_IN_1
DIG_IN_2
MIC_GND
MIC_IN
1401
FMN
1402
FMN-STK
To AV Board
To AV Board

2 DIGITAL TO ANALOG

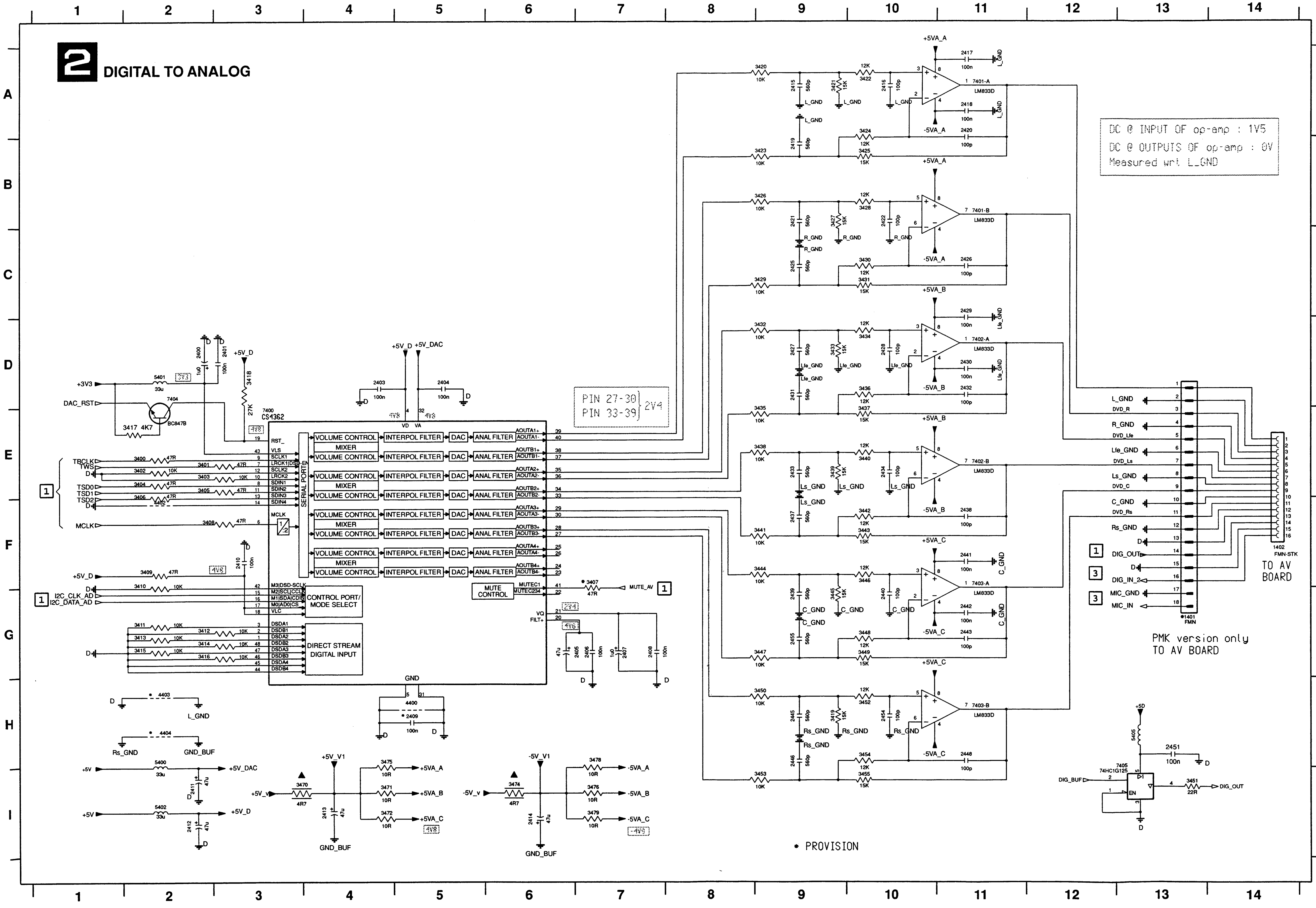
DC @ INPUT OF op-amp : 1V5
DC @ OUTPUTS OF op-amp : 0V
Measured wrt L_GND

PIN 27-30
PIN 33-39 } 2V4

* PROVISION
*NB CS4362 is used in AV2003

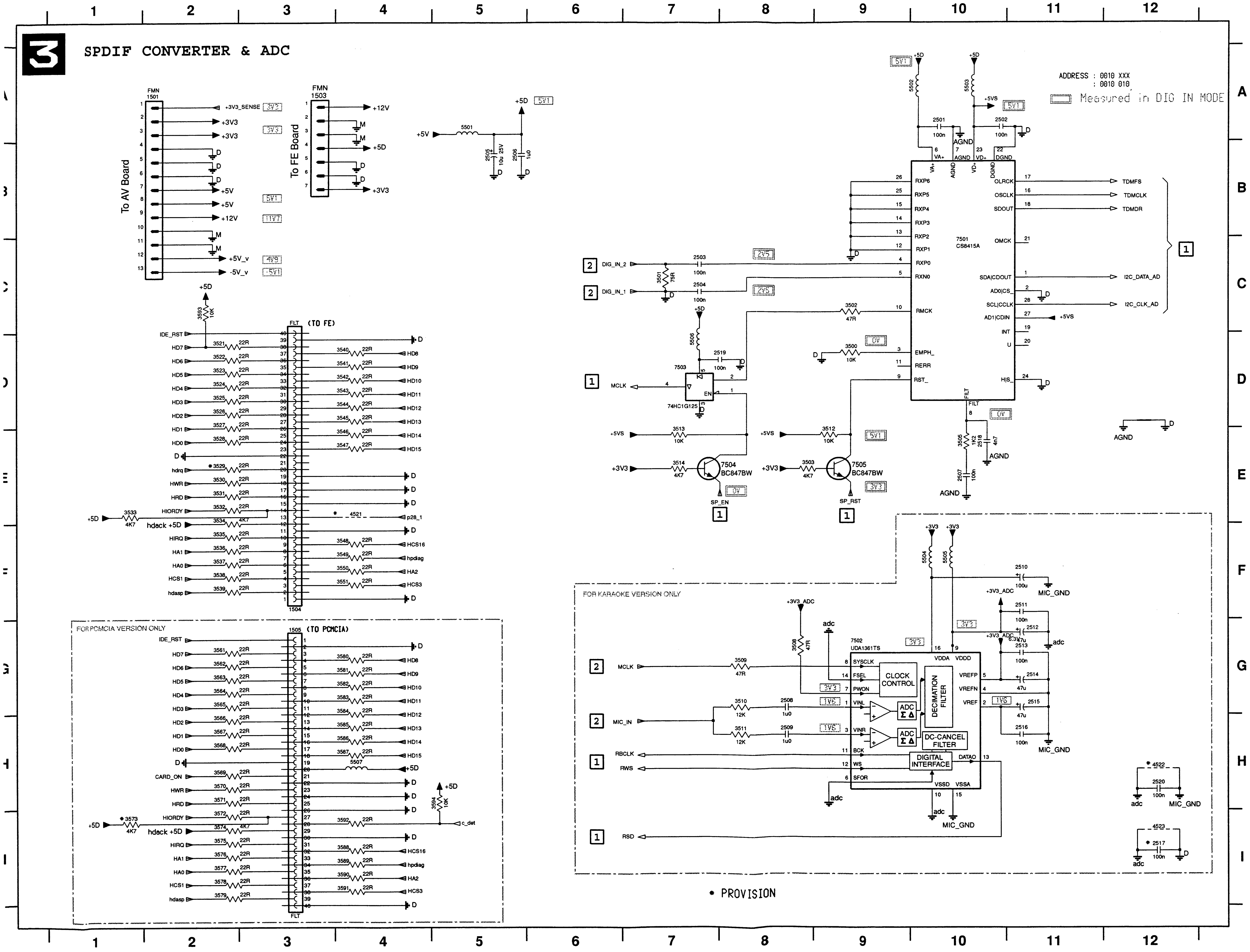
• PROVISION

CIRCUIT DIAGRAM 2 (For pc board ... 3511p4)


2
DIGITAL TO ANALOG
7400
CS4362
VOLUME CONTROL
MIXER
INTERPOL FILTER
DAC
ANAL FILTER
SERIAL PORT
CONTROL PORT/
MODE SELECT
DIRECT STREAM
DIGITAL INPUT
MUTE
CONTROL
7401-A
7401-B
7402-A
7402-B
7403-A
7403-B
LM833D
7404
BC847B
7405
74HC1G125
+3V3
DAC_RST
TBCLK
TWS
TSD0
TSD1
TSD2
MCLK
+5V_D
+5V_DAC
I2C_CLK_AD
I2C_DATA_AD
MUTE_AV
+5VA_A
-5VA_A
+5VA_B
-5VA_B
+5VA_C
-5VA_C
+5V_V1
-5V_V1
GND_BUF
L_GND
R_GND
Lfe_GND
Ls_GND
C_GND
Rs_GND
DVD_R
DVD_Lfe
DVD_Ls
DVD_C
DVD_Rs
DIG_OUT
DIG_IN_2
MIC_GND
MIC_IN
DIG_BUF
1401
FMN
1402
FMN-STK
PIN 27-30
PIN 33-39
2V4
DC @ INPUT OF op-amp : 1V5
DC @ OUTPUTS OF op-amp : 0V
Measured wrt L_GND
TO AV
BOARD
PMK version only
TO AV BOARD
* PROVISION

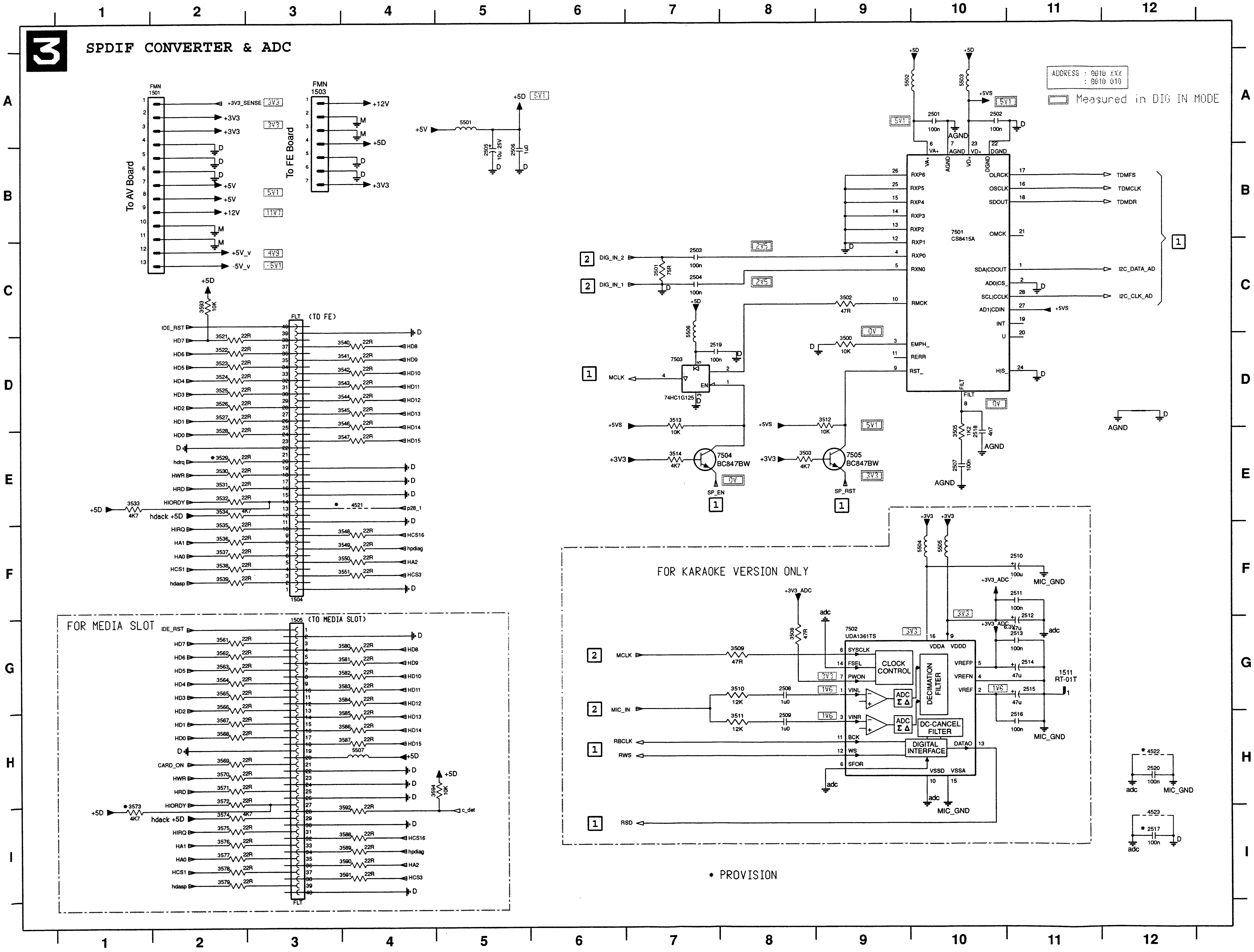
1401	G13
1402	F14
2400	D2
2401	D3
2403	D4
2404	D5
2405	G6
2406	G7
2407	G7
2408	G7
2409	H5
2410	F3
2411	I2
2412	I2
2413	I4
2414	I6
2415	A9
2416	A10
2417	A11
2418	A11
2419	B9
2420	A11
2421	B9
2422	B10
2425	C9
2426	C11
2427	D9
2428	D10
2429	C11
2430	D11
2431	D9
2432	D11
2433	E9
2434	E10
2437	F9
2438	F11
2439	G9
2440	G10
2441	F11
2442	G11
2443	G11
2445	H9
2446	H9
2448	H11
2451	H13
2454	H10
2455	G9
3400	E2
3401	E2
3402	E2
3403	E2
3404	E2
3405	E2
3406	E2
3407	F7
3408	F2
3409	F2
3410	F2
3411	G2
3412	G2
3413	G2
3414	G2
3415	G2
3416	G2
3417	E2
3418	D3
3419	H9
3420	A9
3421	A9
3422	A10
3423	B9
3424	A10
3425	B10
3426	B9
3427	B9
3428	B10
3429	C9
3430	C10
3431	C10
3432	D9
3433	D9
3434	D10
3435	E9
3436	D10
3437	E10
3438	E9
3439	E9
3440	E10
3441	F9
3442	F10
3443	F10
3444	F9
3445	G9
3446	F10
3447	G9
3448	G10
3449	G10
3450	H9
3451	I13
3452	H10
3453	I9
3454	H10
3455	I10
3470	I3
3471	I4
3472	I4
3474	I6
3475	H4
3476	I7
3478	H7
3479	I7
4400	H5
4402	F2
4403	H2
4404	H2
5400	H2
5401	D2
5402	I2
5405	H13
7400	E3
7401-A	A11
7401-B	B11
7402-A	D11
7402-B	E11
7403-A	F11
7403-B	H11
7404	D2
7405	I13

IRCUIT DIAGRAM 3


3
SPDIF CONVERTER & ADC
FMN 1501
To AV Board
+3V3_SENSE
+3V3
+5V
+12V
+5V_v
-5V_v
FMN 1503
To FE Board
+12V
+5D
+3V3
+5V
5501
2505 10u 25V
2506 1u0
FLT (TO FE)
1504
IDE_RST
HD7
HD6
HD5
HD4
HD3
HD2
HD1
HD0
hdrq
HWR
HRD
HIORDY
hdack +5D
HIRQ
HA1
HA0
HCS1
hdasp
HD8
HD9
HD10
HD11
HD12
HD13
HD14
HD15
p28_1
HCS16
hpdiag
HA2
HCS3
4521
3593 10K
3533 4K7
FOR PCMCIA VERSION ONLY
1505 (TO PCMCIA)
CARD_ON
c_det
5507
3594 10K
3573 4K7
ADDRESS : 0010 XXX
: 0010 010
Measured in DIG IN MODE
5502
5503
+5VS
2501 100n
2502 100n
AGND
7501 CS8415A
VA+
VD+
DGND
RXP6
RXP5
RXP4
RXP3
RXP2
RXP1
RXP0
RXN0
RMCK
EMPH_
RERR
RST_
FILT
OLRCK
OSCLK
SDOUT
OMCK
SDA|CDOUT
AD0|CS_
SCL|CCLK
AD1|CDIN
INT
U
H|S_
TDMFS
TDMCLK
TDMDR
I2C_DATA_AD
I2C_CLK_AD
DIG_IN_2
DIG_IN_1
2503 100n
2504 100n
3501 75R
3502 47R
3500 10K
5506
2519 100n
7503 74HC1G125
MCLK
EN
3513 10K
3514 4K7
7504 BC847BW
SP_EN
3512 10K
3503 4K7
7505 BC847BW
SP_RST
3505 1K2
2518 4n7
2507 100n
FOR KARAOKE VERSION ONLY
+3V3_ADC
adc
3508 47R
7502 UDA1361TS
SYSCLK
FSEL
PWON
VINL
VINR
BCK
WS
SFOR
CLOCK CONTROL
DECIMATION FILTER
ADC ΣΔ
DC-CANCEL FILTER
DIGITAL INTERFACE
VDDA
VDDD
VREFP
VREFN
VREF
DATAO
VSSD
VSSA
MIC_IN
RBCLK
RWS
RSD
3509 47R
3510 12K
3511 12K
2508 1u0
2509 1u0
5504
5505
2510 100u
2511 100n
2512
2513 100n
2514 47u
2515 47u
2516 100n
MIC_GND
4522
2520 100n
4523
2517 100n
• PROVISION

1501	A2
1503	A3
1504	F3
1505	G3
2501	A10
2502	A10
2503	C7
2504	C7
2505	B5
2506	B5
2507	E10
2508	G8
2509	H8
2510	F11
2511	F11
2512	G11
2513	G11
2514	G11
2515	G11
2516	H11
2517	I12
2518	E10
2519	D8
2520	H12
3500	D9
3501	C7
3502	C9
3503	E8
3505	E10
3508	G8
3509	G8
3510	G8
3511	H8
3512	E9
3513	E7
3514	E7
3521	D2
3522	D2
3523	D2
3524	D2
3525	D2
3526	D2
3527	D2
3528	E2
3529	E2
3530	E2
3531	E2
3532	E2
3533	E1
3534	E2
3535	F2
3536	F2
3537	F2
3538	F2
3539	F2
3540	D4
3541	D4
3542	D4
3543	D4
3544	D4
3545	D4
3546	E4
3547	E4
3548	F4
3549	F4
3550	F4
3551	F4
3561	G2
3562	G2
3563	G2
3564	G2
3565	G2
3566	H2
3567	H2
3568	H2
3569	H2
3570	H2
3571	H2
3572	I2
3573	I1
3574	I2
3575	I2
3576	I2
3577	I2
3578	I2
3579	I2
3580	G4
3581	G4
3582	G4
3583	G4
3584	G4
3585	H4
3586	H4
3587	H4
3588	I4
3589	I4
3590	I4
3591	I4
3592	I4
3593	C2
3594	H5
4521	E4
4522	H12
4523	I12
5501	A5
5502	A10
5503	A10
5504	F10
5505	F10
5506	D7
5507	H4
7501	C10
7502	G9
7503	D7
7504	E8
7505	E9

CIRCUIT DIAGRAM 3 (For pc board ...3511p4)


3
SPDIF CONVERTER & ADC
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H I
FMN 1501
To AV Board
+3V3_SENSE
+3V3
+5V
+12V
+5V_v
-5V_v
FMN 1503
To FE Board
+12V
+5D
+3V3
5501
+5V
2505
2506
+5D
FLT (TO FE)
1504
IDE_RST
HD7 HD6 HD5 HD4 HD3 HD2 HD1 HD0
HD8 HD9 HD10 HD11 HD12 HD13 HD14 HD15
22R
hdrq
HWR
HRD
HIORDY
HIRQ
HA1
HA0
HCS1
hdasp
hdack +5D
HCS16
hpdiag
HA2
HCS3
4521
p28_1
3533 4K7
3593 10K
FOR MEDIA SLOT
1505 (TO MEDIA SLOT)
CARD_ON
5507
3594 10K
c_det
3573 4K7
ADDRESS : 0010 xXX
: 0010 010
Measured in DIG IN MODE
7501 CS8415A
VA+ AGND VD+ DGND
RXP6 RXP5 RXP4 RXP3 RXP2 RXP1 RXP0 RXN0
RMCK
EMPH_
RERR
RST_
OLRCK OSCLK SDOUT OMCK
SDA|CDOUT
AD0|CS_
SCL|CCLK
AD1|CDIN
INT
U
H|S_
FILT
TDMFS
TDMCLK
TDMDR
I2C_DATA_AD
I2C_CLK_AD
5502
5503
2501 100n
2502 100n
DIG_IN_2
DIG_IN_1
2503 100n
2504 100n
3501 75R
3502 47R
3500 10K
5506
2519 100n
7503 74HC1G125
MCLK
EN
+5VS
+3V3
3513 10K
3514 4K7
7504 BC847BW
SP_EN
3512 10K
3503 4K7
7505 BC847BW
SP_RST
3505 1K2
2518 4n7
2507 100n
AGND
FOR KARAOKE VERSION ONLY
5504
5505
2510 100u
MIC_GND
+3V3_ADC
2511 100n
2512 6.3V 47u
2513 100n
2514 47u
2515 47u
2516 100n
1511 RT-01T
7502 UDA1361TS
3508 47R
3509 47R
MIC_IN
3510 12K
3511 12K
2508 1u0
2509 1u0
SYSCLK
FSEL
PWON
VINL
VINR
BCK
WS
SFOR
VDDA VDDD
VREFP VREFN VREF
VSSD VSSA
DATAO
CLOCK CONTROL
DECIMATION FILTER
ADC ΣΔ
DC-CANCEL FILTER
DIGITAL INTERFACE
RBCLK
RWS
RSD
adc
4522
2520 100n
4523
2517 100n
* PROVISION

1501	A1
1503	A3
1504	F3
1505	G3
1511	G11
2501	A10
2502	A10
2503	C7
2504	C7
2505	B5
2506	B5
2507	E10
2508	G8
2509	H8
2510	F11
2511	F11
2512	G11
2513	G11
2514	G11
2515	G11
2516	H11
2517	I12
2518	E10
2519	D7
2520	H12
3500	D9
3501	C7
3502	C9
3503	E8
3505	E10
3508	G8
3509	G8
3510	G8
3511	H8
3512	D9
3513	D7
3514	E7
3521	D2
3522	D2
3523	D2
3524	D2
3525	D2
3526	D2
3527	D2
3528	E2
3529	E2
3530	E2
3531	E2
3532	E2
3533	E1
3534	E2
3535	F2
3536	F2
3537	F2
3538	F2
3539	F2
3540	D4
3541	D4
3542	D4
3543	D4
3544	D4
3545	D4
3546	D4
3547	E4
3548	F4
3549	F4
3550	F4
3551	F4
3561	G2
3562	G2
3563	G2
3564	G2
3565	G2
3566	G2
3567	H2
3568	H2
3569	H2
3570	H2
3571	H2
3572	H2
3573	I1
3574	I2
3575	I2
3576	I2
3577	I2
3578	I2
3579	I2
3580	G4
3581	G4
3582	G4
3583	G4
3584	G4
3585	H4
3586	H4
3587	H4
3588	I4
3589	I4
3590	I4
3591	I4
3592	I4
3593	C2
3594	H4
4521	E4
4522	H12
4523	I12
5501	A5
5502	A9
5503	A10
5504	F10
5505	F10
5506	C7
5507	H4
7501	B10
7502	G9
7503	D7
7504	E7
7505	E9

ELECTRICAL PARTS LIST - MONO-BE BOARD

MISCELLANEOUS

	3139 118 56481	BE (Back End) PCB Assembly CD222
300	2422 025 16587	FFC Socket 10P Vert.
301	2422 025 16988	FFC Socket 8P Vert.
302	2422 025 16792	FFC Socket 4P Vert.
305	2422 543 01137	X'tal Resonator 27MHz 10p
402	4822 267 11028	FFC Socket 16P Hort.
501	2422 025 16591	FFC Socket 13P Vert.
503	2422 025 17367	FFC Socket 7P Vert.
504	2422 025 17763	FFC Socket 40P Vert.

CAPACITORS

2300	2238 586 59812	100nF 50V
2301	4822 124 21732	10uF 20% 25V
2302	2238 586 59812	100nF 50V
2303	4822 124 21732	10uF 20% 25V
2304	2238 586 59812	100nF 50V
2305	4822 124 21732	10uF 20% 25V
2306	2238 586 59812	100nF 50V
2307	2238 586 59812	100nF 50V
2308	2238 586 59812	100nF 50V
2309	2238 586 59812	100nF 50V
2310	2238 586 59812	100nF 50V
2311	4822 124 21732	10uF 20% 25V
2312	4822 122 33752	15pF 5% 50V
2313	4822 122 33761	22pF 5% 50V
2315	2238 586 59812	100nF 50V
2316	2238 586 59812	100nF 50V
2317	2020 552 94427	100pF 5% 50V
2318	2020 552 94427	100pF 5% 50V
2319	2020 552 94427	100pF 5% 50V
2320	2020 552 94427	100pF 5% 50V
2321	3198 017 44740	470nF 10V
2322	3198 017 44740	470nF 10V
2326	2238 586 59812	100nF 50V
2327	2238 586 59812	100nF 50V
2330	2238 586 59812	100nF 50V
2331	2238 586 59812	100nF 50V
2332	2238 586 59812	100nF 50V
2334	2238 586 59812	100nF 50V
2335	2238 586 59812	100nF 50V
2336	2238 586 59812	100nF 50V
2337	4822 124 21732	10uF 20% 25V
2338	4822 124 21732	10uF 20% 25V
2339	4822 122 33752	15pF 5% 50V
2340	2238 586 59812	100nF 50V
2341	2238 586 59812	100nF 50V
2342	2238 586 59812	100nF 50V
2343	2238 586 59812	100nF 50V
2344	2238 586 59812	100nF 50V
2345	2238 586 59812	100nF 50V
2346	2238 586 59812	100nF 50V
2347	2238 586 59812	100nF 50V
2348	2238 586 59812	100nF 50V
2349	2238 586 59812	100nF 50V
2350	2238 586 59812	100nF 50V
2351	2238 586 59812	100nF 50V
2352	2238 586 59812	100nF 50V
2353	2238 586 59812	100nF 50V
2354	4822 124 21732	10uF 20% 25V
2355	4822 124 21732	10uF 20% 25V
2356	4822 124 21732	10uF 20% 25V
2357	4822 122 33741	10pF 10% 50V
2358	4822 122 33741	10pF 10% 50V
2362	4822 126 14226	82pF 5% 50V
2363	4822 126 14226	82pF 5% 50V
2364	4822 126 14226	82pF 5% 50V
2365	4822 126 14226	82pF 5% 50V
2400	4822 124 22651	1uF 20% 50V
2401	2238 586 59812	100nF 50V
2403	2238 586 59812	100nF 50V
2404	2238 586 59812	100nF 50V
2405	4822 124 80483	47uF 20% 6,3V
2406	2238 586 59812	100nF 50V
2407	4822 124 22651	1uF 20% 50V
2408	2238 586 59812	100nF 50V
2410	2238 586 59812	100nF 50V
2411	4822 124 80483	47uF 20% 6,3V
2412	4822 124 80483	47uF 20% 6,3V
2413	4822 124 80483	47uF 20% 6,3V
2414	4822 124 80483	47uF 20% 6,3V
2415	4822 126 14249	560pF 10% 50V
2416	2020 552 94427	100pF 5% 50V
2417	2238 586 59812	100nF 50V
2418	2238 586 59812	100nF 50V
2419	4822 126 14249	560pF 10% 50V
2420	2020 552 94427	100pF 5% 50V
2421	4822 126 14249	560pF 10% 50V
2422	2020 552 94427	100pF 5% 50V
2425	4822 126 14249	560pF 10% 50V
2426	2020 552 94427	100pF 5% 50V
2427	4822 126 14249	560pF 10% 50V
2428	2020 552 94427	100pF 5% 50V
2429	2238 586 59812	100nF 50V
2430	2238 586 59812	100nF 50V
2431	4822 126 14249	560pF 10% 50V
2432	2020 552 94427	100pF 5% 50V
2433	4822 126 14249	560pF 10% 50V
2434	2020 552 94427	100pF 5% 50V
2437	4822 126 14249	560pF 10% 50V
2438	2020 552 94427	100pF 5% 50V
2439	4822 126 14249	560pF 10% 50V
2440	2020 552 94427	100pF 5% 50V
2441	2238 586 59812	100nF 50V
2442	2238 586 59812	100nF 50V

ELECTRICAL PARTS LIST - MONO-BE BOARD

2443	2020 552 94427	100pF 5% 50V
2445	4822 126 14249	560pF 10% 50V
2446	4822 126 14249	560pF 10% 50V
2448	2020 552 94427	100pF 5% 50V
2451	2238 586 59812	100nF 50V
2454	2020 552 94427	100pF 5% 50V
2455	4822 126 14249	560pF 10% 50V
2501	2238 586 59812	100nF 50V
2502	2238 586 59812	100nF 50V
2503	2238 586 59812	100nF 50V
2504	2238 586 59812	100nF 50V
2505	4822 124 21732	10uF 20% 25V
2506	3198 017 41050	1uF 10V
2507	2238 586 59812	100nF 50V
2518	4822 126 13193	4,7nF 10% 63V
2519	2238 586 59812	100nF 50V

RESISTORS

3300	4822 051 30222	2k2 5% 0,062W
3301	4822 051 30472	4k7 5% 0,062W
3303	4822 051 30472	4k7 5% 0,062W
3305	4822 051 30472	4k7 5% 0,062W
3307	4822 051 30472	4k7 5% 0,062W
3309	4822 051 30339	33R 5% 0,062W
3311	4822 051 30472	4k7 5% 0,062W
3315	4822 051 30271	270R 5% 0,062W
3316	4822 051 30759	75R 5% 0,062W
3317	4822 051 30759	75R 5% 0,062W
3318	4822 051 30759	75R 5% 0,062W
3319	4822 051 30759	75R 5% 0,062W
3320	4822 051 30339	33R 5% 0,062W
3321	4822 051 30339	33R 5% 0,062W
3322	4822 051 30689	68R 5% 0,063W
3323	4822 051 30339	33R 5% 0,062W
3324	4822 051 30339	33R 5% 0,062W
3325	4822 051 30339	33R 5% 0,062W
3326	4822 051 30339	33R 5% 0,062W
3327	4822 051 30339	33R 5% 0,062W
3328	4822 051 30339	33R 5% 0,062W
3329	4822 051 30109	10R 5% 0,062W
3330	4822 051 30109	10R 5% 0,062W
3331	4822 051 30109	10R 5% 0,062W
3332	4822 051 30109	10R 5% 0,062W
3333	4822 051 30109	10R 5% 0,062W
3334	4822 051 30109	10R 5% 0,062W
3335	4822 051 30109	10R 5% 0,062W
3336	4822 051 30109	10R 5% 0,062W
3337	4822 051 30109	10R 5% 0,062W
3338	4822 051 30109	10R 5% 0,062W
3339	4822 051 30109	10R 5% 0,062W
3340	4822 051 30109	10R 5% 0,062W
3346	4822 117 13632	100k 1% 0,062W
3347	4822 051 30689	68R 5% 0,063W
3348	4822 051 30109	10R 5% 0,062W
3350	4822 051 30102	1k 5% 0,062W
3351	4822 051 30102	1k 5% 0,062W
3352	4822 051 30109	10R 5% 0,062W
3353	4822 051 30109	10R 5% 0,062W
3355	4822 051 30479	47R 5% 0,062W
3371	4822 051 30472	4k7 5% 0,062W
3372	4822 051 30103	10k 5% 0,062W
3373	4822 051 30102	1k 5% 0,062W
3400	4822 051 30479	47R 5% 0,062W
3401	4822 051 30479	47R 5% 0,062W
3402	4822 051 30103	10k 5% 0,062W
3403	4822 051 30103	10k 5% 0,062W
3404	4822 051 30479	47R 5% 0,062W
3405	4822 051 30479	47R 5% 0,062W
3406	4822 051 30479	47R 5% 0,062W
3408	4822 051 30479	47R 5% 0,062W
3409	4822 051 30479	47R 5% 0,062W
3410	4822 051 30103	10k 5% 0,062W
3411	4822 051 30103	10k 5% 0,062W
3412	4822 051 30103	10k 5% 0,062W
3413	4822 051 30103	10k 5% 0,062W
3414	4822 051 30103	10k 5% 0,062W
3415	4822 051 30103	10k 5% 0,062W
3416	4822 051 30103	10k 5% 0,062W
3417	4822 051 30472	4k7 5% 0,062W
3418	4822 051 30273	27k 5% 0,062W
3419	4822 051 30153	15k 5% 0,062W
3420	4822 051 30103	10k 5% 0,062W
3421	4822 051 30153	15k 5% 0,062W
3422	4822 051 30123	12k 5% 0,062W
3423	4822 051 30103	10k 5% 0,062W
3424	4822 051 30123	12k 5% 0,062W
3425	4822 051 30153	15k 5% 0,062W
3426	4822 051 30103	10k 5% 0,062W
3427	4822 051 30153	15k 5% 0,062W
3428	4822 051 30123	12k 5% 0,062W
3429	4822 051 30103	10k 5% 0,062W
3430	4822 051 30123	12k 5% 0,062W
3431	4822 051 30153	15k 5% 0,062W
3432	4822 051 30103	10k 5% 0,062W
3433	4822 051 30153	15k 5% 0,062W
3434	4822 051 30123	12k 5% 0,062W
3435	4822 051 30103	10k 5% 0,062W
3436	4822 051 30123	12k 5% 0,062W
3437	4822 051 30153	15k 5% 0,062W
3438	4822 051 30103	10k 5% 0,062W
3439	4822 051 30153	15k 5% 0,062W
3440	4822 051 30123	12k 5% 0,062W
3441	4822 051 30103	10k 5% 0,062W
3442	4822 051 30123	12k 5% 0,062W

ELECTRICAL PARTS LIST - MONO-BE BOARD

RESISTORS

3443	4822 051 30153	15k 5% 0,062W
3444	4822 051 30103	10k 5% 0,062W
3445	4822 051 30153	15k 5% 0,062W
3446	4822 051 30123	12k 5% 0,062W
3447	4822 051 30103	10k 5% 0,062W
3448	4822 051 30123	12k 5% 0,062W
3449	4822 051 30153	15k 5% 0,062W
3450	4822 051 30103	10k 5% 0,062W
3451	4822 117 12139	22R 5% 0,062W
3452	4822 051 30123	12k 5% 0,062W
3453	4822 051 30103	10k 5% 0,062W
3454	4822 051 30123	12k 5% 0,062W
3455	4822 051 30153	15k 5% 0,062W
3470	4822 052 10478 ⚠	4R7 5% 0,33W
3471	4822 051 30109 ⚠	10R 5% 0,062W
3472	4822 051 30109	10R 5% 0,062W
3474	4822 052 10478	4R7 5% 0,33W
3475	4822 051 30109	10R 5% 0,062W
3476	4822 051 30109	10R 5% 0,062W
3478	4822 051 30109	10R 5% 0,062W
3479	4822 051 30109	10R 5% 0,062W
3500	4822 051 30103	10k 5% 0,062W
3501	4822 051 30759	75R 5% 0,062W
3502	4822 051 30479	47R 5% 0,062W
3503	4822 051 30472	4k7 5% 0,062W
3505	4822 117 11817	1k2 1% 1/16W
3512	4822 051 30103	10k 5% 0,062W
3513	4822 051 30103	10k 5% 0,062W
3514	4822 051 30472	4k7 5% 0,062W
3521	4822 117 12139	22R 5% 0,062W
3522	4822 117 12139	22R 5% 0,062W
3523	4822 117 12139	22R 5% 0,062W
3524	4822 117 12139	22R 5% 0,062W
3525	4822 117 12139	22R 5% 0,062W
3526	4822 117 12139	22R 5% 0,062W
3527	4822 117 12139	22R 5% 0,062W
3528	4822 117 12139	22R 5% 0,062W
3530	4822 117 12139	22R 5% 0,062W
3531	4822 117 12139	22R 5% 0,062W
3532	4822 117 12139	22R 5% 0,062W
3533	4822 051 30472	4k7 5% 0,062W
3534	4822 051 30472	4k7 5% 0,062W
3535	4822 117 12139	22R 5% 0,062W
3536	4822 117 12139	22R 5% 0,062W
3537	4822 117 12139	22R 5% 0,062W
3538	4822 117 12139	22R 5% 0,062W
3539	4822 117 12139	22R 5% 0,062W
3540	4822 117 12139	22R 5% 0,062W
3541	4822 117 12139	22R 5% 0,062W
3542	4822 117 12139	22R 5% 0,062W
3543	4822 117 12139	22R 5% 0,062W
3544	4822 117 12139	22R 5% 0,062W
3545	4822 117 12139	22R 5% 0,062W
3546	4822 117 12139	22R 5% 0,062W
3547	4822 117 12139	22R 5% 0,062W
3548	4822 117 12139	22R 5% 0,062W
3550	4822 117 12139	22R 5% 0,062W
3551	4822 117 12139	22R 5% 0,062W
3593	4822 051 30103	10k 5% 0,062W
4304	4822 051 30008	0R JUMPER 0603
4305	4822 051 30008	0R JUMPER 0603
4310	4822 051 30008	0R JUMPER 0603
4400	4822 051 30008	0R JUMPER 0603
4402	4822 051 30008	0R JUMPER 0603

COILS & FILTERS

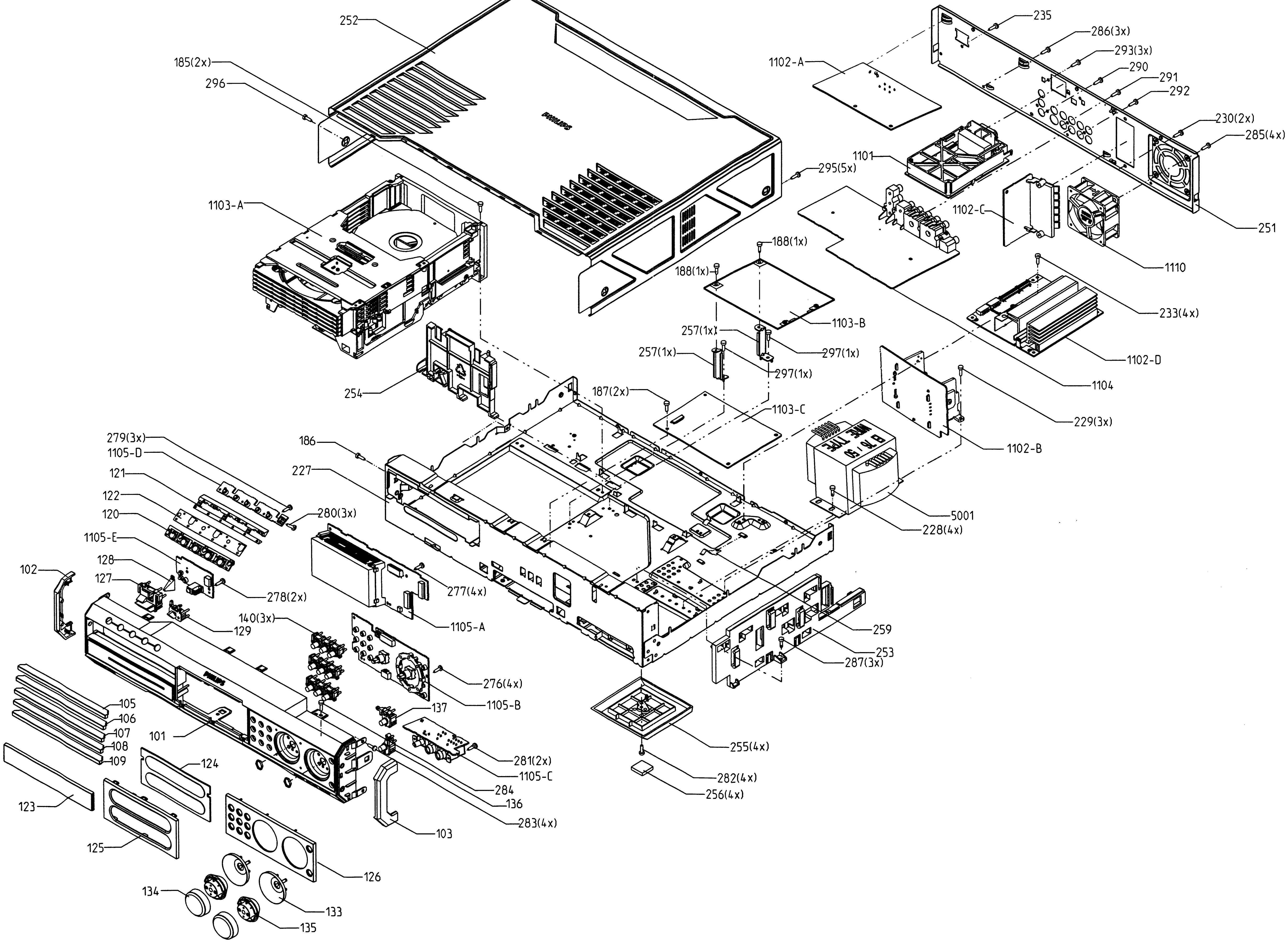
5300	4822 157 11499	IND FXE EMI 100MHZ 60R
5301	4822 157 11499	IND FXE EMI 100MHZ 60R
5302	4822 157 70299	IND FXD 2,2uH 5%
5303	4822 157 70299	IND FXD 2,2uH 5%
5304	4822 157 70299	IND FXD 2,2uH 5%
5305	4822 157 70299	IND FXD 2,2uH 5%
5306	4822 157 71206	IND FXD 100MHZ 600R
5307	4822 157 71206	IND FXD 100MHZ 600R
5400	3198 018 63390	IND FXD 33uH 5%
5401	3198 018 63390	IND FXD 33uH 5%
5402	3198 018 63390	IND FXD 33uH 5%
5405	4822 157 71206	IND FXD 100MHZ 600R
5501	4822 157 11716	IND FXD 100MHZ 30R
5502	4822 157 11716	IND FXD 100MHZ 30R
5503	4822 157 11716	IND FXD 100MHZ 30R
5506	4822 157 11716	IND FXD 100MHZ 30R

TRANSISTORS & INTEGRATED CIRCUITS

7300	9965 000 18638	M29F800DT-70N1 with SW program
7301	9322 163 27685	NCP301LSN45
7302	9322 185 43671	ES6028F
7303	9322 178 78668	K4S641632F-TC70
7304	9965 000 04931	M24C01-WMN6
7305	9322 178 32668	LF27CDT
7310	3198 010 42310	BC847BW
7400	9322 177 92671	CS4362-KQ
7401	4822 209 30095	LM833D
7402	4822 209 30095	LM833D
7403	4822 209 30095	LM833D
7404	5322 130 60159	BC847B
7405	9352 456 90115	74HC1G125GW
7501	9322 185 10668	CS8415A-CZ
7503	9352 456 90115	74HC1G125GW
7504	3198 010 42310	BC847BW
7505	3198 010 42310	BC847BW

Note: Only the parts mentioned in this list are normal service spare parts.

XPLODED VIEW - MAIN UNIT


252
185(2x)
296
1103-A
254
279(3x)
1105-D
121
122
120
1105-E
128
127
102
280(3x)
278(2x)
129
140(3x)
101
105
106
107
108
109
123
124
125
126
134
133
135
103
136
137
284
283(4x)
281(2x)
1105-C
276(4x)
1105-B
277(4x)
1105-A
186
227
187(2x)
1103-C
257(1x)
257(1x)
297(1x)
297(1x)
188(1x)
188(1x)
1103-B
295(5x)
1102-A
235
286(3x)
293(3x)
290
291
292
230(2x)
285(4x)
1101
1102-C
251
1110
233(4x)
1102-D
1104
229(3x)
1102-B
5001
228(4x)
259
253
287(3x)
255(4x)
282(4x)
256(4x)
PHILIPS

MECHANICAL & ACCESSORIES PARTS LIST - MAIN UNIT

101	3139 118 18791		Cabinet Front Silver	MX3900D
101	3139 257 51651		Cabinet Front	MX3910D
101	3139 257 50461		Cabinet Front Dark Grey	MX3950D
101	3139 257 51641		Cabinet Front	MX3960D
102	3139 118 18801		Cover Cab Side Left Silver	
102	3139 257 50471		Cover Cab Side L Dark Grey	
103	3139 118 18811		Cover Cab Side Right Silver	
103	3139 257 50481		Cover Cab Side R Dark Grey	
105	3139 118 18821		Cover Tray Disc 1 Silver	
105	3139 257 50491		Cover Tray Disc 1 Dark Grey	
106	3139 118 19101		Cover Tray Disc 2 Silver	
106	3139 257 50501		Cover Tray Disc 2 Dark Grey	
107	3139 118 19111		Cover Tray Disc 3 Silver	
107	3139 257 50511		Cover Tray Disc 3 Dark Grey	
108	3139 118 19121		Cover Tray Disc 4 Silver	
108	3139 257 50521		Cover Tray Disc 4 Dark Grey	
109	3139 118 19131		Cover Tray Disc 5 Silver	
109	3139 257 50531		Cover Tray Disc 5 Dark Grey	
120	3139 118 19441		Button Set CD Open/Close Chrome	
122	3139 113 27511		Cutsheet Shield CD Open/Close	
123	3139 118 18831		Panel Left Silver	MX3900D
123	3139 257 51671		Panel Left	MX3910D
123	3139 257 50541		Panel Left Dark Grey	MX3950D
123	3139 257 51661		Panel Left	MX3960D
124	3139 118 18841		Window Display	
125	3139 118 18851		Panel Display Silver	
125	3139 257 50551		Panel Display Dark Grey	
126	3139 118 18861		Panel Control Silver	
126	3139 257 50561		Panel Control Dark Grey	
127	3139 118 18871		Button Set Power Eco Silver	
127	3139 257 50571		Button Set Power Eco Dark Grey	
128	3139 114 77041		Lightguide Power Eco Stdby	
133	3139 118 18941		Ring Ornamental	
134	3139 118 18931		Cap Knob Rotary Chrome	
135	3139 118 18921		Knob Source/Volume Rotary	
136	3139 118 19461		Button Set Bass Chrome	
137	3139 118 19471		Button Set Treble Chrome	
140	3139 118 19451		Button Set Source Control Chrome	
256	3139 113 27220		Foot Rubber	
259	3139 111 01470		Spring Grounding	
296	3139 110 40691		Screw M5x6 Hex W/Head Chrome	
296	3139 110 40701		Screw M5x6 Hex W/Head Black	
345	3139 119 01381		Satellite LS Package CS3900D/17S	
345	3139 119 01401		Satellite LS Package CS3950D/17S	
346	3139 119 01391		Subwoofer Box SW3900/17S	
346	3139 119 01411		Subwoofer Box SW3950D/17s	
351	4822 303 50063		FM Antenna	
352	4822 303 50082		AM Loop Antenna	
353	3139 228 61701		Remote Control RC19241001/01	
356	2422 070 98246	⚠	Mains Cord UL 7A 1,5M	/17/37
356	2422 070 98151	⚠	Mains Cord Eur 2A5 1,5M	/78
357	3139 128 73011	⚠	Mains Adaptor	/78
358	4822 263 21206		Cable Video 1,7M Yellow	
361	2422 076 00374		Cable Cinch 1,5M Gn/Bu/Rd	
362	3103 308 92610		Cable Audio 1,5M 2x2 RCA	
370	3139 115 21991		Instruction for Use	MX3900D/MX3950D
1110	3103 308 52950		Fan Assembly KD1206PTS3	
5001	3139 118 32661	⚠	Mains Transfo. PWR207 6x75W	/17/37
5001	3139 118 32641	⚠	Mains Transfo. PWR207 6x75W	/78
8000	3139 110 35031		FFC Cable Pin 14cm AD	
8001	3139 111 02001		FFC Cable 13Pin 40cm BD	
8002	3139 111 02041		FFC Cable 17Pin 40cm AD	
8003	3139 111 02271		FFC Cable 13Pin 10cm AD	
8005	3139 111 02051		FFC Cable 7Pin 34cm AD	
8006	3139 110 34860		FFC Cable 4Pin 34cm AD	
8008	3139 111 02021		FFC Cable 4Pin 22cm AD	
8010	3139 111 02601		FFC Cable 16Pin 18cm AD	
8011	3139 111 02591		FFC Cable 10Pin 28cm AD	
8012	3139 111 02581		FFC Cable 13Pin 18cm AD	
8013	3139 111 02571		FFC Cable 10Pin 18cm BD	
8014	3139 111 02571		FFC Cable 10Pin 18cm BD	
8016	3139 110 36140		FFC Cable 4Pin 18cm AD	
8018	3139 111 02231		FFC Cable 5Pin 12cm AD	

Note: Only the parts mentioned in this list are normal service spare parts.

Breakdown of Satellite LS Package CS3900D/17S (Applicable for MX3900D & MX3910D only)

9965 000 17040	Front Left Speaker Box
9965 000 17041	Front Right Speaker Box
9965 000 17042	Surround Left Speaker Box
9965 000 17043	Surround Right Speaker Box
9965 000 17044	Center Speaker Box
9965 000 17045	Front Grille Assy (Center Speaker)
9965 000 17046	Philips Logo (Center Speaker)
9965 000 17047	Keyhole Bracket Pack set Silver

Breakdown of Satellite LS Package CS3950D/17S (Applicable for MX3950D & MX3960D only)

9965 000 17050	Front Left Speaker Box
9965 000 17051	Front Right Speaker Box
9965 000 17052	Surround Left Speaker Box
9965 000 17053	Surround Right Speaker Box
9965 000 17054	Center Speaker Box
9965 000 17055	Front Grille Assy (Center Speaker)
9965 000 17046	Philips Logo (Center Speaker)
9965 000 17056	Keyhole Bracket Pack Set Black

Breakdown of SW3900/17S & SW3950/17S (Applicable for all)

9965 000 17048	Front Grille Assy SW3900/17S
9965 000 17049	Front Grille Assy SW3950/17S
9965 000 17046	Philips Logo

Note: Only the parts mentioned in this list are normal service spare parts.

SCREW LISTS - MAIN UNIT

185	M3 x 6
186	D3 x 10
187	M3 x 6
188	M3 x 6
228	M3 x 6
229	M3 x 6
230	D3 x 10
233	M3 x 6
235	D3 x 10
276	D3 x 10
277	D3 x 10
278	D3 x 10
279	D2 x 8
280	D2 x 8
281	D2 x 8
282	M3 x 6
283	M3 x 6
284	M3 x 6
285	D3 x 10
286	M3 x 6
287	M3 x 6
288	D3 x 10
290	D3 x 10
291	D3 x 10
292	D3 x 10
293	D3 x 10
295	M3 x 6
296	M5 x 6 Hex W/Head
297	M3 x 6

REVISION LIST

Version 1.0

- Initial release

Version 1.1

- Add MX3910D/17 and MX3960D/17 into the Service Manual and some correction.
  Pages modified : Pg Front, 1-2 and 2-1
  Pages corrected : Pg 3-3, 8-2, 11-11, 12-7 and 12-8

- Add new pcb layout & schematics released:
  Front Board: Pg 6-2a, 6-3a,b,c, 6-4a, 6-5a,b, 6-6a and 6-7a,b
  AV Board: Pg 8-3a,b,c, 8-4a., 8-5a, 8-6a, 8-7a, 8-8a, 8-9a, 8-10a,b,c and 8-11a,b,c
  Power Module: Pg 9-2a,b,c,d,e, 9-3a,b,c,d,e, 9-4a, 9-5a, 9-6a and 9-7a
  5DTC Control Board: Pg 10-4a
  Mono-BE Board: Pg 12-2a,b,c, 12-3a, 12-4a, 12-5a and 12-6a

Version 1.2 (2 April 2004)

- Add MX3910D/78